

A WORKBOOK FOR
Arithmetic We Need



CURRICULUM

QA
106
B98
A
gr.3
wkbk.

SWELL
OWNELL
UBLE

CURR HIST

BOOK FOR ARITHMETIC WE NEED

GRADE THREE

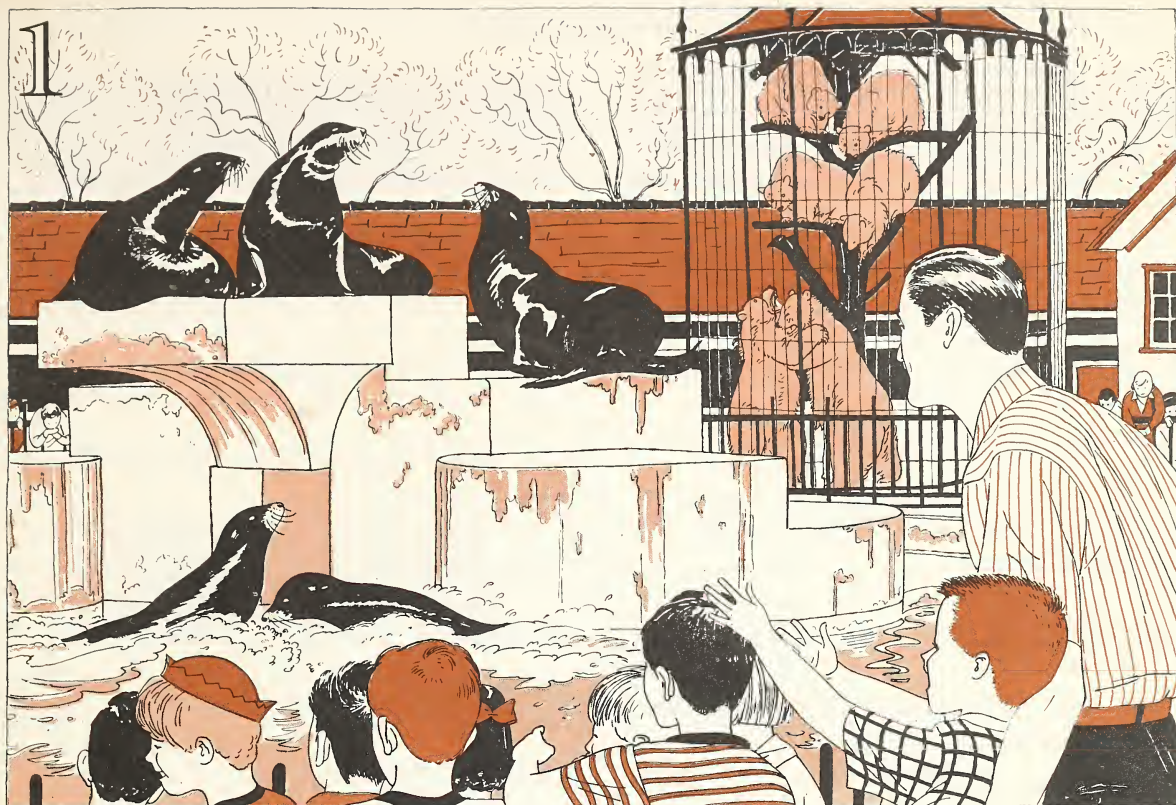
GUY T. BUSWELL
University of California, Berkeley

WILLIAM A. BROWNELL
University of California, Berkeley

IRENE SAUBLE
Detroit Public Schools

Classified Summary

	PAGE		PAGE		PAGE
Addition		Measures		58, 63, 68, 70, 79, 87,	
meaning of, 1-4, 17, 18,		linear,	14, 38, 70	91, 95, 102, 104, 109,	
28, 44, 47, 56, 61, 78		liquid,	107	113, 118, 125, 132, 135,	
development of facts in,		of time,	35, 75	137, 142	
4, 5, 12-13, 15, 28, 29,		of weight,	55	finding n, 13, 16-17, 30,	
36, 39, 40, 49, 52				43, 62, 69, 85, 113	
column, 18, 25, 44, 45,		Multiplication		Problem-solving , 4, 11, 14,	
53, 59, 73, 74, 75, 97		meaning of, 89, 90, 92,		16, 21, 25, 27, 30, 33,	
with 2-place numbers,		94, 102, 103, 106, 108-110		43, 48, 67, 72, 81, 91,	
23-25, 44, 45, 46, 47,		of 0,	110	95, 111, 118, 131, 134,	
56-58, 61, 73, 74		of 1,	100	135, 136	
with 3-place numbers,		with 2,	92-94	Roman numerals ,	123
78, 80, 81		with 3,	98, 99		
with 0,	44, 45	with 4,	126-128	Subtraction	
carrying in, 56, 61, 73,		of 2-place numbers,		meaning of, 8-11, 16, 27,	
74, 78, 80, 81, 97		102-104, 106-107, 109		31, 42, 49, 50, 64, 68	
checking, 44, 45, 47, 59,		of 3-place numbers, 108,		development of facts in,	
73, 74		109, 110, 112		12-13, 15, 29, 36, 39,	
families in,	24, 57, 58	with carrying, 106, 108-		40, 49, 52	
		110, 112		families in,	32, 33, 65, 66
Coins and money num-		checking, 104, 106, 108,		with 2-place numbers,	
bers, 5, 21, 53, 73, 81,		110, 112		31-33, 50-51, 64-66, 68-69	
96, 104		Number system , 6-7, 20,		with 3-place numbers, 82-86	
making change,	96	22, 46, 77		with 0,	49, 85, 86
Counting ,	7, 22, 46			borrowing in, 64, 65, 66,	
		Practice		68-69, 82-86	
Division		addition, 4, 5, 15, 17, 18,		checking,	51, 69, 82
meaning of, 114, 115,		24, 25, 28, 40, 41, 44,		Testing answers ,	143
117, 118, 133, 134, 136, 138		45, 46, 47, 53, 56, 57,			
with 2,	116-117	58, 59, 61, 62, 63, 73,		Tests	
with 3,	119-121	74, 75, 76, 78, 80, 81, 82, 97		Can You Tell? 6, 26, 45,	
with 4,	126, 129, 130	subtraction, 10, 11, 28,		79, 83, 97, 100-101, 137	
with 1 as quotient figure, 136		31, 32, 33, 34, 41, 42,		Do You Know? (chapter	
of 2-place numbers, 138-140		51, 59, 66, 67, 69, 82,		tests), 19, 37, 54, 71,	
of 3-place numbers,	141	83, 84, 85, 86		87-88, 105, 122, 143-144	
checking, 120, 121, 129,		multiplication, 94, 102,		Whole stories	
130, 140, 141		103, 104, 106, 107, 108,		in A. and S., 11-13, 15,	
Fractions , 60, 76, 101, 132,		109, 110, 112, 113, 128		29, 36, 39, 40, 49, 52	
133-135, 136		division, 131, 135, 138,		in M. and D.,	124-126
		140, 141, 142			
		mixed, 21, 34, 35, 48, 52,			



Groups at the Zoo

1. At the zoo, Ted saw a group of 3 seals and a group of 2 seals.

Picture A shows the seals together. How many are in the new group?



The number story is

3 seals and 2 seals are 5 seals.

2. Ted saw a group of 2 bears and a group of bears. He saw bears in all. The number story is

2 bears and bears are bears.

3. Ted saw 4 birds. Then he saw 1 bird more. How many birds did he see in all?

Make a picture in box B. Draw 4 birds. Then draw 1 bird more. Make the birds like this:

B

In all, there are birds. Finish the number story:

... birds and ... bird are ... birds.

Two or more things together are a group.

Numbers tell how many there are in groups.

When you find how many in all, you put groups together.

Put-Together Stories



1. Picture A. Are the things in both groups tops? Then we can put the groups together, as in B. In all, there are tops.

2. Finish these put-together stories for pictures A and B:

2 tops and 3 tops are tops.

2 tops and 3 tops equal tops.

3. Picture C. Can we put the groups of dogs together?

The dogs are together in picture D.

4. Finish these put-together stories for pictures C and D:

1 dog and 3 dogs are dogs.

1 dog and 3 dogs equal dogs.

1 dog and 3 dogs are the same as dogs.

We can write put-together stories a short way, like this:

2 and 3 are 5.

$$2 + 3 = 5$$

1 and 3 equal 4.

$$1 + 3 = 4$$

4 and 2 are the same as 6.

$$4 + 2 = 6$$

Write these put-together stories the new short way:

5. 4 houses and 1 house are 5 houses. $4 + \dots = \dots$

6. 2 cats and 2 cats equal cats. $2 \dots 2 \dots 4$

7. 1 tree and 2 trees are the same as trees.

The groups of dots show put-together stories. Write each story the short way.

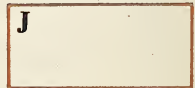
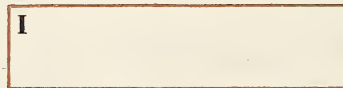


8. Boxes E and F.

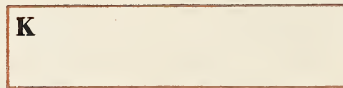
9. Boxes G and H.



10. Make dot pictures in boxes I and J to show the short story $5 + 1 = 6$.



11. Make dot pictures in boxes K and L to show the short story $2 + 4 = 6$.



Most Put-Together Stories Go in Pairs



1. The picture of the horns shows the put-together story $1 + \text{-----} = \text{-----}$.

2. The horns show another put-together story, $2 + 1 = 3$. Do you see this story?



3. The bells show two put-together stories. One is $3 + 2 = 5$. Write the other.

4. Make dots in the boxes to show a put-together story about 4 and 2.



5. Write in the short way the two put-together stories for your dot picture.

Write the put-together story to go with

6. $3 + 1 = 4$ -----

7. $1 + 5 = 6$ -----

8. $2 + 4 = 6$ -----

9. $2 + 3 = 5$ -----

The Up-and-Down Way to Write Put-Together Stories

$1 + 2 = 3$ is the left-to-right way to write the put-together story.

We can write it another way, up and down, like this: \rightarrow

$$\begin{array}{r} 1 \\ + 2 \\ \hline 3 \end{array}$$

We can write $3 + 2 = 5$ like this: \longrightarrow

$$\begin{array}{r} 3 \\ + 2 \\ \hline 5 \end{array}$$

Read the left-to-right way and the up-and-down way the same.

Write each story the up-and-down way.

1. $2 + 4 = 6$

$$\begin{array}{r} 2 \\ + 4 \\ \hline 6 \end{array}$$

2. $4 + 1 = 5$

$$\begin{array}{r} 4 \\ + \\ \hline \end{array}$$

Write these in the up-and-down way:

3. $2 + 3 = 5$

$$\begin{array}{r} + \\ \hline \end{array}$$

4. $1 + 5 = 6$

$$\begin{array}{r} + \\ \hline \end{array}$$

5. Finish these pairs of put-together stories:

a. $\begin{array}{r} 2 \\ + 1 \\ \hline 3 \end{array}$ $\begin{array}{r} 1 \\ + 2 \\ \hline 4 \end{array}$

b. $\begin{array}{r} 1 \\ + 3 \\ \hline \end{array}$ $\begin{array}{r} 3 \\ + 1 \\ \hline \end{array}$

6. Write just the answers.

$\begin{array}{r} 3 \\ + 3 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ + 4 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ + 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ + 4 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ + 1 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ + 2 \\ \hline \end{array}$
---	---	---	---	---	---

Adding to Find How Many in All



1. Three girl dolls and 2 boy dolls are how many dolls in all? Put the groups together, or add the numbers. We write the work as in box A.

Think the answer. Write it in box A.

A
3 dolls
+ 2 dolls

... dolls

B
2 dresses
+ 4 dresses

... dresses

2. Two white dresses and 4 red dresses are how many dresses?

Do you find how many in all? Can you add? *Think* the answer. Write it in box B.

C

3. Jack saw 3 planes in a group and one plane alone. That was how many planes in all? Write your work in box C.

4. Write just the answer: Don caught 2 big fish and 2 little fish, or fish in all.

Addition Facts about 7



1. Box A shows the adding story $1 + 6 = 7$. It shows another adding story, too. Write it in the left-to-right way.



2. Write the two adding stories for box B.

C

$2 + 5$ always equal 7, so $2 + 5 = 7$ is an addition fact. A story with no answer, like $2 + 5 = ?$ is an example.

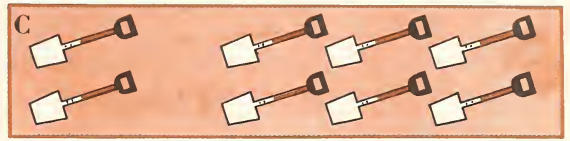
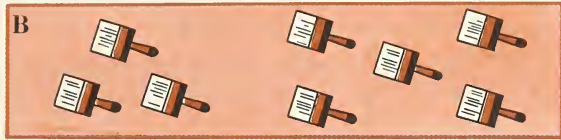
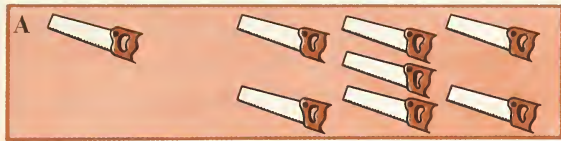
3. In box C, make a dot picture for 3 and 4. Under the picture write the two addition facts in the left-to-right way.

4. Write two addition facts for the example 5 and 2 = ?

5. Write answers for these examples:

4	2	3	6	2	1	3	4	2	5
+ 2	+ 5	+ 3	+ 1	+ 3	+ 6	+ 2	+ 3	+ 4	+ 2

Addition Facts for 8



1. Look at boxes A, B, C, and D. Which box shows $2 + 6 = 8$?
2. What other addition fact does the same box show?
3. Which box shows $3 + 5 = 8$?
4. What other addition fact does this box show?

5. Which box shows $1 + 7 = 8$?
6. What other addition fact does this box show?
7. Which box shows $4 + 4 = 8$?
8. Does this box show another fact?

Answers for addition examples are sums.

Finish these pairs of addition facts:

- | | | | |
|-----------------|---------------------|---------------------|---------------------|
| 9. $2 + 6 = 8$ | 10. $5 + \dots = 8$ | 11. $1 + 7 = \dots$ | 12. $6 + \dots = 8$ |
| $6 + 2 = \dots$ | | | |

Draw a line through sums that are wrong.

	a	b	c	d	e	f	g	h	i	j
13.	$\begin{array}{r} 3 \\ +4 \\ \hline 7 \end{array}$	$\begin{array}{r} 7 \\ +1 \\ \hline 8 \end{array}$	$\begin{array}{r} 5 \\ +1 \\ \hline 6 \end{array}$	$\begin{array}{r} 2 \\ +6 \\ \hline 7 \end{array}$	$\begin{array}{r} 1 \\ +6 \\ \hline 7 \end{array}$	$\begin{array}{r} 3 \\ +5 \\ \hline 7 \end{array}$	$\begin{array}{r} 1 \\ +3 \\ \hline 4 \end{array}$	$\begin{array}{r} 3 \\ +2 \\ \hline 6 \end{array}$	$\begin{array}{r} 1 \\ +7 \\ \hline 8 \end{array}$	$\begin{array}{r} 5 \\ +3 \\ \hline 8 \end{array}$
14.	$\begin{array}{r} 2 \\ +3 \\ \hline 6 \end{array}$	$\begin{array}{r} 4 \\ +2 \\ \hline 8 \end{array}$	$\begin{array}{r} 3 \\ +3 \\ \hline 6 \end{array}$	$\begin{array}{r} 6 \\ +2 \\ \hline 8 \end{array}$	$\begin{array}{r} 4 \\ +4 \\ \hline 8 \end{array}$	$\begin{array}{r} 6 \\ +1 \\ \hline 7 \end{array}$	$\begin{array}{r} 4 \\ +3 \\ \hline 6 \end{array}$	$\begin{array}{r} 5 \\ +2 \\ \hline 8 \end{array}$	$\begin{array}{r} 4 \\ +1 \\ \hline 5 \end{array}$	$\begin{array}{r} 2 \\ +5 \\ \hline 7 \end{array}$

Write the sums of these money numbers. Put the ¢ sign after each sum.

15.	$\begin{array}{r} 5¢ \\ +2¢ \\ \hline \end{array}$	$\begin{array}{r} 4¢ \\ +4¢ \\ \hline \end{array}$	$\begin{array}{r} 1¢ \\ +7¢ \\ \hline \end{array}$	$\begin{array}{r} 3¢ \\ +5¢ \\ \hline \end{array}$	$\begin{array}{r} 3¢ \\ +4¢ \\ \hline \end{array}$	$\begin{array}{r} 2¢ \\ +6¢ \\ \hline \end{array}$	$\begin{array}{r} 2¢ \\ +5¢ \\ \hline \end{array}$	$\begin{array}{r} 4¢ \\ +3¢ \\ \hline \end{array}$	$\begin{array}{r} 5¢ \\ +3¢ \\ \hline \end{array}$	$\begin{array}{r} 6¢ \\ +2¢ \\ \hline \end{array}$
-----	--	--	--	--	--	--	--	--	--	--

To find how many or how much in all, you add.

Can You Tell?

For each of examples 1 to 4, draw a ring around the answer you think is right. It may be Yes or it may be No.

1. Must the things in groups be alike if they are to be put together?

Yes No

2. To find how many or how much in all, do you add numbers?

Yes No

3. In most addition facts, are the sums smaller than any number added?

Yes No

4. Are things in sums like the things in the groups that were put together?

Yes No

5. In the box, make a dot picture to show groups of 3 and 5.

6. The two addition facts for the box are

----- and -----

7. In $2 + 1 = 3$, the sign that means “equal” or “are the same as” is -----

8. Write an addition fact in which 7 is the sum. -----

9. In an addition fact, $+$ means -----

Reading and Writing Numbers to 99

1. In the box write the missing numbers.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	-----	20
21	22	23	24	25	26	27	-----	29	30
31	32	33	-----	35	36	37	38	39	40
-----	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	-----	58	59	60
61	62	63	64	65	66	67	68	69	-----
71	72	73	74	75	-----	77	78	79	80
81	-----	83	84	85	86	87	88	89	90
91	92	-----	94	95	96	97	98	99	

2. Write the number that comes just after: 29 -----; 26 -----; 31 -----.

3. Write the number that comes just before: ----- 66; ----- 90; ----- 51.

4. Write the numbers from 57 to 62.
57-----

5. Write the numbers from 29 to 33.
29-----

6. Copy the largest of the three numbers.

a. 66, 16, 46 ----- c. 37, 50, 82 -----

b. 55, 70, 43 ----- d. 43, 34, 61 -----

7. Copy the smallest of the three numbers.

a. 35, 55, 25 ----- c. 19, 72, 81 -----

b. 80, 40, 60 ----- d. 96, 91, 88 -----

8. The largest number in the box on page 6 is -----.

9. Numbers like 4 and 9 are 1-place numbers. We write them with ---- figure.

10. Numbers like 57 and 81 are 2-place numbers. We write them with ---- figures.

11. In the box on page 6, draw a ring around the number for

- a. twenty-one c. fifty-one
b. forty d. eighty-six

12. Write in figures the numbers for

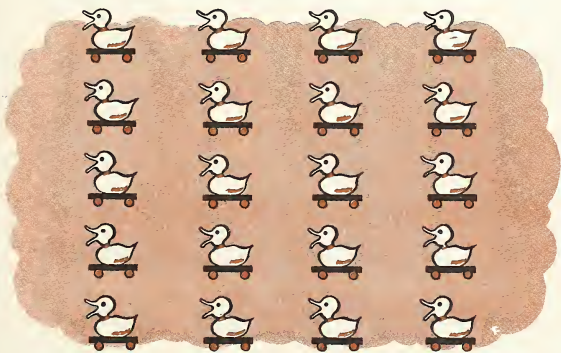
a. sixty-two ----- e. twenty-four -----

b. seventy ----- f. sixty-nine -----

c. ninety-five ----- g. fifty-eight -----

d. thirty-three ----- h. thirty-seven -----

Quick Ways to Count



1. Count the ducks by 1's. How many? ----

2. Now count by 4's. How many? -----

3. Now count by 5's. How many? -----

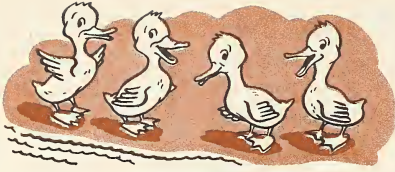
4. To count by 2's from 12 to 20, you would say: 12 -----

5. To count by 10's from 10 to 50, you would say: 10 -----

6. To count by 5's from 60 to 80, you would say: 60 -----

7. To count by 3's from 6 to 18, you would say: 6 -----

Taking Away Parts of Groups



1. Four ducks are on the shore. If 2 ducks go into the water, how many ducks will be left on the shore?

a. Put X on 2 ducks to show they went into the water.

b. How many ducks are left on the shore?

This is a take-away story.



2. Six toy trucks were in a group. Two rolled away. That left how many trucks?

a. Put X on trucks.

b. trucks are left.



3. I ate 3 of the 5 nuts. That left how many?

a. Change the picture.

b. Finish the story:

5 nuts take away nuts is nuts.



4. One of the 4 birds flew away. How many stayed?

a. Change the picture.

b. Finish the story:

4 birds take away bird is birds.

We write the story in these two short ways: →

$$\begin{array}{r} \text{Left to Right} \\ 4 - 1 = 3 \end{array}$$

Up and Down

$$\begin{array}{r} 4 \\ - 1 \\ \hline 3 \end{array}$$

We read both ways alike:

"4 take away 1 is 3," or

"1 from 4 equals 3."

5. The sign — means

6. 5 dots — 2 dots = ? Use box A. Finish the story.

7. 6 — 3 = ? Use box B. Write the story in the box.

8. 5 — 4 = ? Use box C. Write the story in the box.

9. 6 — 5 = ? Use box D. Write the story in the box.

10. In each story, are the things you took away like the things in the first big group?

Are the things left like the things in the first big group?

In a take-away story, the things are alike.

<p>A</p>	<p>B</p>
<p>C</p>	<p>D</p>

Try to *think* the answers and then write them. Make dot pictures if you need help.

11. 3 take away 1 is

12. 4 take away 2 is

13. 2 from 3 is

14. 5 take away 2 is

15. 6 take away 4 is

16. 3 from 5 equals

17. $4 - 3 =$ 19. $6 - 1 =$

18. $5 - 1 =$ 20. $6 - 2 =$

Write examples 11 to 14 in the left-to-right way. Put in answers to make take-away facts.

11. $3 - 1 =$

12.

13.

14.

Write examples 11 to 14 again, this time in the up-and-down way. Put in the answers.

11. $\begin{array}{r} 3 \\ - 1 \\ \hline \end{array}$ 12. 13. 14.

Pairs of Take-Away Facts



1. Cover 2 cats with your hand.

$3 - 2 =$

2. Now cover only 1 cat. $3 - 1 =$

$3 - 2 = 1$ and $3 - 1 = 2$ make a pair of take-away facts.



3. Cover 3 cows. $4 - 3 =$

4. Now cover only 1 cow. $4 - 1 =$

5. The new pair of take-away facts is:

..... and



6. Cover 2 hens. $4 - 2 =$

7. Has $4 - 2 = 2$ another fact to make a pair?

Most take-away facts go in pairs.

Finish each of these examples. Then write the other fact to make a pair.

8. $6 - 1 =$

9. $7 - 3 =$

10. $5 - 2 =$

11. $6 - 4 =$

12. $7 - 5 =$

Subtracting to Find How Many Left



A

$$\begin{array}{r} 5 \text{ apples} \\ - 3 \text{ apples} \\ \hline \end{array}$$

---- apples

B

$$\begin{array}{r} 4 \text{ pieces} \\ - 2 \text{ pieces} \\ \hline \end{array}$$

---- pieces

C

$$\begin{array}{r} 7 \text{ sandwiches} \\ - 4 \text{ sandwiches} \\ \hline \end{array}$$

---- sandwiches

D

E

$\begin{array}{r} 7 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ - 4 \\ \hline \end{array}$
---	---	---

$\begin{array}{r} 6 \\ - 5 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ - 3 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ - 2 \\ \hline \end{array}$
---	---	---

$\begin{array}{r} 5 \\ - 1 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ - 1 \\ \hline \end{array}$
---	---	---

1. Mother used 3 large apples to make a pie. If she had 5 apples at first, how many were left?

This is a how-many-left story, or problem. To get the answer, you subtract. You write the work as in box A.

a. Are the things in all the groups alike?

b. *Think* the answer. Write it in box A.

2. She cut the pie into 4 pieces. We ate 2 pieces. How many pieces did we not eat?

a. Is this a how-many-left story, or problem?

b. Is the problem question "How many pieces did we not eat?"

c. Is the number question $4 - 2 = ?$

d. Finish the work in box B.

3. We ate 4 of the 7 sandwiches Mother made. How many were left?

a. Is this a how-many-left problem?

b. The number question is

c. Finish the work in box C.

4. I had to wash 6 dishes in all. I washed 3 of them. How many were left to be washed?

a. The number question is

b. Write all the work in box D.

Write remainders for the subtraction examples in box E.

To find how many are left, you subtract.
When you subtract, you take away one group from another group.

Answers for how-many-left problems are remainders.

How-Many-Left Problems and Examples

Read each problem. *Think* the answer. Then write it after the problem.

1. Sam's father was going to take 7 boys on a picnic. One of the boys had to stay at home. How many could go?

2. Four of the 6 boys rode to the picnic in one car. That left how many boys to ride in another car?

3. Two of the 6 boys went swimming. How many boys did not go?

4. Don brought 5 oranges. He gave 2 away. How many were left?

5. Write the remainders in the box.

$\begin{array}{r} 6 \\ - 3 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ - 5 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ - 2 \\ \hline \end{array}$
---	---	---	---

$\begin{array}{r} 5 \\ - 3 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ - 1 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ - 2 \\ \hline \end{array}$
---	---	---	---

6. Look at your answers in the box. Is each remainder smaller than the number you subtracted from?

In most examples, the remainder is smaller than the number you subtract from.

Whole Stories in Addition and Subtraction

Write the 2 addition facts for picture A.

1. ----- 2. -----



3. Cover the group of 2 goats. Write the subtraction fact.

4. Cover the group of 4 goats. Write the subtraction fact.

Picture A shows 4 facts. Together they make the whole story about 2, 4, and 6.

5. The whole story has ---- addition facts and ---- subtraction facts.

6. Write the facts in the up-and-down way.

$\begin{array}{r} 2 \\ + 4 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ + \\ \hline \end{array}$	$\begin{array}{r} 6 \\ - \\ \hline \end{array}$	$\begin{array}{r} 6 \\ - \\ \hline \end{array}$
---	---	---	---



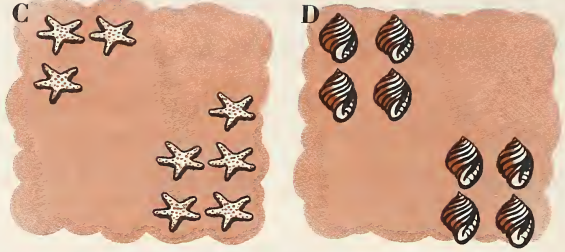
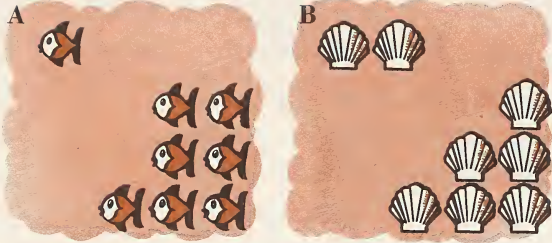
7. Picture B shows a double, $2 + 2$. How many facts has the whole story about 2, 2, and 4?

8. Write the facts:

$\begin{array}{r} 2 \\ + 2 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ - \\ \hline \end{array}$
---	---

Every addition fact not a double goes with one other addition fact and two subtraction facts to make a whole story.

Whole Stories with 8



1. Which of pictures A, B, C, and D shows the addition fact $2 + 6 = 8$?

2. Write the other 3 facts in the whole story about 2, 6, and 8. Use picture B.

A. (addition):

S. (subtraction):

3. Picture shows the whole story about 1, 7, and 8. Write the four facts.

A.

S.

4. Write the whole story for picture C.

A.

S.

5. Picture D. $4 + 4 = 8$ is a double. Write the two facts in its whole story.

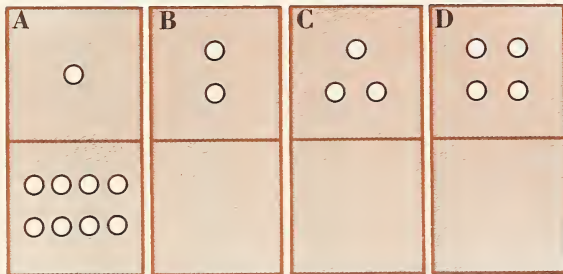
A.

S.

6. Write the answers. Under each fact, write the letter of its picture.

1	8	4	8	3
$+ 7$	$- 3$	$+ 4$	$- 6$	$+ 5$

Whole Stories and Facts with 9



1. Look at boxes A to D. In the lower part of each box, make enough rings so that the whole box will show 9 rings. Box A is done for you.

Use your ring pictures for examples 2 to 7.

2. $9 = 2$ and 7 . Picture ~~B~~.

3. $9 = 5$ and Picture

4. $9 = 4$ and Picture

5. $9 = 6$ and Picture

6. $9 = 1$ and Picture

7. What is the other part of 9 if

a. one part is 7? ... c. one part is 3? ...

b. one part is 8? ... d. one part is 4? ...

Use your ring pictures on page 12 if you need help.

8. Write all four facts in the whole stories about:

3, 6, and 9

3	6	9	9
$+$	$+$	$-$	$-$
<u>6</u>	<u> </u>	<u> </u>	<u> </u>

7, 2, and 9

$+$	$+$	$-$	$-$
<u> </u>	<u> </u>	<u> </u>	<u> </u>

1, 8, and 9

$+$	$+$	$-$	$-$
<u> </u>	<u> </u>	<u> </u>	<u> </u>

5, 4, and 9

$+$	$+$	$-$	$-$
<u> </u>	<u> </u>	<u> </u>	<u> </u>

9. Write just the answers.

9	9	5	6	9	3	2	9	4	9	9
<u>-5</u>	<u>-3</u>	<u>$+4$</u>	<u>$+3$</u>	<u>-2</u>	<u>$+6$</u>	<u>$+7$</u>	<u>-8</u>	<u>$+5$</u>	<u>-7</u>	<u>-6</u>

A New Kind of Example

In these examples, **n** stands for a number you are to find. Look at example 1. You know that $7 - 2 = 5$, so **n** stands for 5.

Write the answer for example 1 in the box. Do the other examples the same way. Write your answers in the box.

- | | | | |
|----------------|-----------------|-----------------|-----------------|
| 1. $7 - 2 = n$ | 6. $9 - 7 = n$ | 11. $9 - 5 = n$ | 16. $9 - 4 = n$ |
| 2. $1 + 8 = n$ | 7. $6 + 3 = n$ | 12. $9 - 1 = n$ | 17. $3 + 6 = n$ |
| 3. $8 - 3 = n$ | 8. $8 - 2 = n$ | 13. $2 + 7 = n$ | 18. $4 + 5 = n$ |
| 4. $9 - 2 = n$ | 9. $5 + 4 = n$ | 14. $9 - 6 = n$ | 19. $4 + 4 = n$ |
| 5. $2 + 6 = n$ | 10. $1 + 7 = n$ | 15. $7 - 4 = n$ | 20. $7 - 3 = n$ |

Answers

- | | | | |
|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|
| 1. $n = \underline{5}$ | 6. $n = \underline{\hspace{2cm}}$ | 11. $n = \underline{\hspace{2cm}}$ | 16. $n = \underline{\hspace{2cm}}$ |
| 2. $n = \underline{\hspace{2cm}}$ | 7. $n = \underline{\hspace{2cm}}$ | 12. $n = \underline{\hspace{2cm}}$ | 17. $n = \underline{\hspace{2cm}}$ |
| 3. $n = \underline{\hspace{2cm}}$ | 8. $n = \underline{\hspace{2cm}}$ | 13. $n = \underline{\hspace{2cm}}$ | 18. $n = \underline{\hspace{2cm}}$ |
| 4. $n = \underline{\hspace{2cm}}$ | 9. $n = \underline{\hspace{2cm}}$ | 14. $n = \underline{\hspace{2cm}}$ | 19. $n = \underline{\hspace{2cm}}$ |
| 5. $n = \underline{\hspace{2cm}}$ | 10. $n = \underline{\hspace{2cm}}$ | 15. $n = \underline{\hspace{2cm}}$ | 20. $n = \underline{\hspace{2cm}}$ |



Going Fishing

Remember: Add to find how many in all, and subtract to find how many left.

Draw a ring around A. if you should add to get the answer. Draw a ring around S. if you should subtract.

1. Don's father had 9 dollars. He bought Don a fishing pole for 2 dollars. Then he had how many dollars left?

A. S.

2. They rode 5 minutes, then made a turn and rode 4 minutes more. How many minutes in all did they ride?

A. S.

3. Mother put 5 cookies in Don's lunch and 3 cookies in Father's lunch. How many cookies was that in all?

A. S.

4. Don saw 9 little fish in a pool. After 5 of them went away, how many fish were still in the pool?

A. S.

5. Don's father caught 3 fish, and Don caught 6. They caught how many fish in all?

A. S.

6. Don gave 2 of his 6 fish to his aunt. How many fish were left for him to take home?

A. S.

Now read each problem again. *Think* the answer. Write your answers here.

1. ----- 2. ----- 3. -----

4. ----- 5. ----- 6. -----

In each problem, were the things in all the groups alike? -----

Measuring Lines

A -----

B -----

1. Look at line A. Guess how many inches long it is. Use your finger inch to help you. Write your guess over line A.

2. Do the same for line B.

3. Now measure line A with your ruler.

Line A is ----- inches long.

4. Measure line B with your ruler. How many inches long is line B? -----

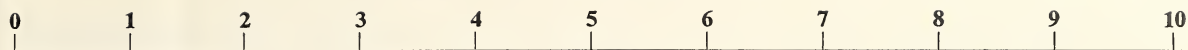
5. Draw a line here that you think is 3 inches long. Don't use your ruler.

6. Measure your line. Did you draw it about right? -----

C -----

7. Measure line C with your ruler. It is ----- inches long.

Parts of 10, and Facts for 10



The numbers on this line go from 0 to 10. You can add and subtract on the line just as you can on your ruler. To add on the line, count to the right. To subtract, count to the left.

1. Use the line to help you find answers for the examples in box A.

A

$$10 - 3 = \underline{\hspace{2cm}}$$

$$2 + \underline{\hspace{2cm}} = 10$$

$$6 + \underline{\hspace{2cm}} = 10$$

$$7 + \underline{\hspace{2cm}} = 10$$

$$9 + \underline{\hspace{2cm}} = 10$$

$$10 - 4 = \underline{\hspace{2cm}}$$

$$10 - 5 = \underline{\hspace{2cm}}$$

$$10 - 8 = \underline{\hspace{2cm}}$$

2. Write the parts of 10. Use the line to help you.

1 and $\underline{\hspace{2cm}}$

4 and $\underline{\hspace{2cm}}$

7 and $\underline{\hspace{2cm}}$

2 and $\underline{\hspace{2cm}}$

5 and $\underline{\hspace{2cm}}$

8 and $\underline{\hspace{2cm}}$

3 and $\underline{\hspace{2cm}}$

6 and $\underline{\hspace{2cm}}$

9 and $\underline{\hspace{2cm}}$

3. Write all the facts in the whole stories about

1, 9, and 10

2, 8, and 10

3, 7, and 10

4, 6, and 10

$\underline{\hspace{2cm}}$	$\underline{\hspace{2cm}}$	$\underline{\hspace{2cm}}$	$\underline{\hspace{2cm}}$
$\underline{\hspace{2cm}}$	$\underline{\hspace{2cm}}$	$\underline{\hspace{2cm}}$	$\underline{\hspace{2cm}}$
$\underline{\hspace{2cm}}$	$\underline{\hspace{2cm}}$	$\underline{\hspace{2cm}}$	$\underline{\hspace{2cm}}$
$\underline{\hspace{2cm}}$	$\underline{\hspace{2cm}}$	$\underline{\hspace{2cm}}$	$\underline{\hspace{2cm}}$

4. Is $5 + 5 = 10$ a double? $\underline{\hspace{2cm}}$

How many parts are in its whole story?

$\underline{\hspace{2cm}}$. Write them.

$\underline{\hspace{2cm}}$

5. Write answers for the examples in box B. Try to *think* them. If you need help, use whole stories. If you know $2 + 8 = 10$, you know $10 - 2 = 8$.

B

$$\begin{array}{r} 10 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 1 \\ \hline \end{array}$$

How-Many-Gone Subtraction Problems

1. Jean had 6 buttons. Now she has only 2 buttons left. She has used how many?

You know how many at first, 6, and how many left, 2. This is a how-many-gone problem. Subtract to find the answer.



Draw a ring around 2 buttons to show that they were left.

$$6 - 2 = \underline{\hspace{2cm}}$$

Write how-many-gone questions on the lines in examples 3 and 4.

3. Tom has only 2 of his 8 pennies left.

4. On Ned's birthday cake, only 3 of the 9 candles are still burning.



2. Jean has 8 hair ribbons for her doll, but she can find only 3 of them. How many of the hair ribbons are lost?

a. Is this a how-many-gone problem? -----



b. Change the picture.

$$8 - 3 = \underline{\hspace{2cm}}$$

If you need help for examples 5 and 6, make dot pictures.

5. How many children went home if 4 of the 9 children stayed? -----

6. How many eggs have been used

a. if 3 of 6 eggs are left? -----

b. if 4 of 10 eggs are left? -----

To find how many are gone, you subtract.

Finding What **n** Stands for in Examples

Remember, **n** stands for a number you must find. In $4 + 2 = \mathbf{n}$, **n** must stand for 6, because you know that $4 + 2 = 6$.

1. In $6 - \mathbf{n} = 4$, what does **n** stand for? ----- Does the subtraction fact

$6 - 2 = 4$ help you to know? -----

2. In $\mathbf{n} - 2 = 4$,
what does **n** stand for? -----

3. In $6 - \mathbf{n} = 2$,
what does **n** stand for? -----

4. In $\mathbf{n} - 4 = 2$,
what does **n** stand for? -----

5. Write in the box the numbers that **n** stands for in examples **a** to **o**.

a. $n + 3 = 6$

i. $n - 7 = 3$

b. $n - 3 = 5$

j. $6 - n = 1$

c. $9 - n = 4$

k. $8 - 5 = n$

d. $4 + n = 7$

l. $n - 7 = 2$

e. $n - 6 = 4$

m. $8 + n = 10$

f. $10 - n = 2$

n. $7 - n = 2$

g. $5 + n = 9$

o. $2 + n = 8$

h. $7 - n = 4$

a. 3 f. _____ k. _____

b. _____ g. _____ l. _____

c. _____ h. _____ m. _____

d. _____ i. _____ n. _____

e. _____ j. _____ o. _____

Finding Sums of Three Numbers in a Row

1. How many chicks are in the picture?

a. Count the chicks by 1's. How many? _____

b. The things in the groups are all alike, so you can add to find the sum. $3 + 2 + 4 = ?$

3 and 2 are _____, 5 and 4 are _____.

2. Box A. How many pennies in all are 4 pennies, 2 pennies, and 2 pennies? The example is $4\text{¢} + 2\text{¢} + 2\text{¢}$.

Add from the left: 4 and 2 are _____, 6 and 2 are _____.

$4\text{¢} + 2\text{¢} + 2\text{¢} = \text{_____}\text{¢}$.





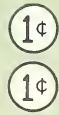







3. Box B. Write the A. example for the groups of dots, with its answer: _____

4. Do the same for box C.

5. $1 + 3 + 6 = ?$ Add the numbers from the left.

$1 + 3 = \text{_____}$, $4 + 6 = \text{_____}$. $1 + 3 + 6 = \text{_____}$

6. Write answers for the examples in box D.

		
		
		
A		
		
B		
		
C		
		

D

a. $2 + 5 + 2 = \text{_____}$



b. $4 + 2 + 4 = \text{_____}$

c. $2 + 6 + 1 = \text{_____}$

d. $2 + 4 + 3 = \text{_____}$

e. $6 + 2 + 1 = \text{_____}$

Adding Three Numbers Up and Down


A 	B 	C $\begin{array}{r} 2 \\ 3 \\ + 3 \\ \hline \end{array}$
--	--	--

1. Count the flowers in box A.
2. Do the groups of dots in box B show the same story?

3. Box C shows the A. example in the up-and-down way. Add downward:

2 and 3 are, 5 and 3 are

Write the sum in box C.

D 	E $\begin{array}{r} 4 \\ 2 \\ + 3 \\ \hline \end{array}$	F <div style="height: 100px; border: 1px solid black;"></div>	G <div style="height: 100px; border: 1px solid black;"></div>
--	--	---	---

4. Box D shows a dot picture for 4 trees and 2 trees and 3 trees.

Box E shows the A. example in the up-and-down way. Write the sum in box E.

5. In box F, write $3 + 1 + 4$ in the up-and-down way. Write the sum.

6. In box G, write $1 + 3 + 4$ in the up-and-down way. Write the sum.

7. Boxes F and G. Are the numbers in the same order? Are the sums the same?

Changing the order of the numbers to be added does not change the sum.

Write the sums. Add downward.

	a	b	c	d	e
8.	7 1 <u>+ 1</u>	1 3 <u>+ 6</u>	5 1 <u>+ 4</u>	2 1 <u>+ 6</u>	3 ¢ 4 ¢ <u>+ 2 ¢</u>
9.	1 3 <u>+ 5</u>	2 2 <u>+ 3</u>	5 1 <u>+ 2</u>	1 4 <u>+ 5</u>	2 ¢ 3 ¢ <u>+ 2 ¢</u>
10.	3 4 <u>+ 1</u>	4 3 <u>+ 2</u>	2 1 <u>+ 5</u>	5 2 <u>+ 3</u>	1 ¢ 8 ¢ <u>+ 1 ¢</u>
11.	2 6 <u>+ 2</u>	1 5 <u>+ 3</u>	6 1 <u>+ 3</u>	7 2 <u>+ 1</u>	4 ¢ 1 ¢ <u>+ 3 ¢</u>
12.	4 2 <u>+ 4</u>	3 6 <u>+ 1</u>	2 1 <u>+ 7</u>	2 4 <u>+ 4</u>	1 ¢ 6 ¢ <u>+ 1 ¢</u>
13.	4 3 <u>+ 3</u>	2 4 <u>+ 2</u>	3 4 <u>+ 3</u>	2 3 <u>+ 4</u>	2 ¢ 2 ¢ <u>+ 6 ¢</u>

Copy the examples in row 8 in the left-to-right way. Add again.

- a.
- b.
- c.
- d.
- e.

Do You Know?

Part 1

Write the sums.

	a	b	c	d	e	f
1.	$\begin{array}{r} 3 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 6\text{¢} \\ +2\text{¢} \\ \hline \end{array}$

2.	$\begin{array}{r} 5 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 6\text{¢} \\ +4\text{¢} \\ \hline \end{array}$
----	--	--	--	--	--	--

3.	$\begin{array}{r} 7 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +1 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 6\text{¢} \\ +3\text{¢} \\ \hline \end{array}$
----	--	--	--	--	--	--

Write the remainders.

4.	$\begin{array}{r} 9 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 9\text{¢} \\ -8\text{¢} \\ \hline \end{array}$
----	--	--	---	--	--	--

5.	$\begin{array}{r} 9 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 10\text{¢} \\ -2\text{¢} \\ \hline \end{array}$
----	--	---	--	--	--	---

6.	$\begin{array}{r} 8 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 9\text{¢} \\ -6\text{¢} \\ \hline \end{array}$
----	--	---	--	---	--	--

Write the sums or remainders.

7.	$\begin{array}{r} 10 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 10\text{¢} \\ -4\text{¢} \\ \hline \end{array}$
----	---	--	--	---	--	---

8.	$\begin{array}{r} 9 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 7\text{¢} \\ -5\text{¢} \\ \hline \end{array}$
----	--	--	--	--	--	--

9.	$\begin{array}{r} 3 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 3\text{¢} \\ +5\text{¢} \\ \hline \end{array}$
----	--	--	--	--	---	--

Study the facts that are hard for you.

Part 2

Write the sums.

1. $2 + 4 + 3 = \text{----}$ 5. $\begin{array}{r} 4\text{¢} \\ 1\text{¢} \\ +3\text{¢} \\ \hline \end{array}$ 6. $\begin{array}{r} 2\text{¢} \\ 2\text{¢} \\ +3\text{¢} \\ \hline \end{array}$

2. $5 + 1 + 2 = \text{----}$

3. $6 + 1 + 2 = \text{----}$

4. $3 + 3 + 4 = \text{----}$

Write the answers.

7. Joe saved 5¢ Monday and 2¢ today.

He saved how much in all? -----

8. Jean ate 2 of the 6 apples on the plate.

That left how many apples? -----

9. If you have lost 2 of your 8 brown marbles, how many do you have now? -----

10. Three boys, 2 girls, and 4 men are how many people in all? -----

11. The balloon man has only 3 of his 10 balloons left. How many are gone? -----

Draw a ring around "Yes" or "No."

12. $4 + 2 + 1$ and $1 + 4 + 2$ have the same sum.

Yes No

13. The remainder for $11 - 8$ is larger than 11.

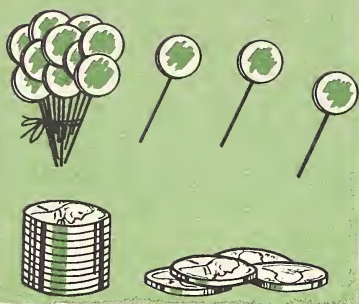
Yes No

14. In counting by 4's, 32 comes next after 28.

Yes No

Working with Teen Numbers

2




1. In the picture, there are 10 lollipops in the bundle. How many lollipops are there in all?

$$10 + 3 = \dots\dots\dots$$


$$13 = 10 + \dots\dots\dots$$



2. Ten pennies are in the pile. How many pennies are shown in all? $10 + 4 = \dots\dots\dots$ $14 = 10 + \dots\dots\dots$

The sign  stands for 10 things of any kind. It is called a "10-bundle."

$$\text{10-bundle} + 1 = 11 \quad (10 + 1)$$

$$\text{10-bundle} + 3 = 13 \quad (10 + 3)$$

3. In box A write the numbers for the -pictures.

4. Make -pictures for the numbers in Ex. a to d below. An easy way to draw the 10-bundle is like this: .

a. 13 $\dots\dots\dots$ c. 12 $\dots\dots\dots$

b. 17 $\dots\dots\dots$ d. 15 $\dots\dots\dots$

5. Finish the work in box B.

The numbers 11 to 19 are made up of a ten and some ones. They are called teen numbers.

6. Picture C. 12 soldiers were standing in line. 2 fell down. That left how many standing? $12 - 2 = ?$

a. Cross out 2 soldiers. b. How many are left? $\dots\dots\dots$

7. Box D tells what story? $\dots\dots\dots$

8. Box E shows $17 - 7 = 10$. What is taken away? $\dots\dots\dots$

9. Write these stories in figures:



a.  $\dots\dots\dots$ b.  $\dots\dots\dots$



c.  $\dots\dots\dots$ d.  $\dots\dots\dots$

10. Finish the work in box F.

When you take away the ones from a teen number, a ten is left.

A

a.  $\dots\dots\dots$ b.  $\dots\dots\dots$

c.  $\dots\dots\dots$ d.  $\dots\dots\dots$

e.  $\dots\dots\dots$

f.  $\dots\dots\dots$

B

1 ten and 4 ones = $\dots\dots\dots$

$$10 + 5 = \dots\dots\dots$$

$\begin{array}{r} 10 \\ + 8 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ + 3 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ + 7 \\ \hline \end{array}$
--	--	--

C



D 

E 

F

$$18 - 8 = \dots\dots\dots 15$$

$$\begin{array}{r} 15 \\ - 5 \\ \hline \end{array}$$

$$14 - 4 = \dots\dots\dots$$

$\begin{array}{r} 17 \\ - 7 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ - 3 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ - 6 \\ \hline \end{array}$
--	--	--

Money Numbers



Look at the two pieces of money shown in pictures A and B.

1. Picture A shows a

We write it ...¢.

2. Picture B shows a dime, or cents.

We can write it¢.



3. In picture C, does the dime stand for a 10-group? Is the group of cents a group of ones?

The picture shows a ten and ones.

$$10¢ + 4¢ = \text{.....}¢$$

4. Cross out the 4 cents in box C. How much money is left?

$$14¢ - 4¢ = \text{.....}¢$$

5. Write the answers for Ex. a to f.

a. $18¢ - 8¢ = \text{.....}$ d. $10¢ + 7¢ = \text{.....}$

b. $10¢ + 1¢ = \text{.....}$ e. $13¢ - 3¢ = \text{.....}$

c. $16¢ - 6¢ = \text{.....}$ f. $11¢ - 1¢ = \text{.....}$

On the line after each problem, write the number question with its answer.

6. Shirley had 16¢. After spending 6 pennies, she had how much left?

7. Mary put a dime in her new bank. Then she put in 4 cents. In all, she put how much in her bank?

8. Joe had 19¢. After giving some of it to Alan, he had 9¢ left. How much did he give to Alan?

Write the answers. Watch the signs!

	a	b	c	d	e
9.	$15¢$ $- 5¢$	$10¢$ $+ 6¢$	$10¢$ $- 9¢$	$10¢$ $+ 3¢$	$9¢$ $- 6¢$
10.	$10¢$ $- 1¢$	$10¢$ $+ 2¢$	$10¢$ $+ 8¢$	$9¢$ $- 8¢$	$10¢$ $- 7¢$
11.	$8¢$ $- 5¢$	$10¢$ $+ 5¢$	$8¢$ $- 6¢$	$5¢$ $+ 4¢$	$10¢$ $- 3¢$
12.	$17¢$ $- 7¢$	$6¢$ $+ 4¢$	$9¢$ $- 7¢$	$4¢$ $+ 6¢$	$10¢$ $+ 9¢$
13.	$12¢$ $- 2¢$	$2¢$ $+ 6¢$	$9¢$ $- 3¢$	$10¢$ $- 4¢$	$5¢$ $+ 3¢$
14.	$10¢$ $- 5¢$	$3¢$ $+ 7¢$	$6¢$ $+ 3¢$	$9¢$ $- 2¢$	$10¢$ $- 8¢$



The Meaning of Two-Place Numbers



1. Count by 10's: 10, 20, _____

2. Write the numbers. Count ten-groups at the top of the page if you need help.

a. 5 tens = _____ d. 6 tens = _____

b. 7 tens = _____ e. 9 tens = _____

c. 2 tens = _____ f. 4 tens = _____

3. -picture A means

_____ tens, or _____.

4. -picture B means

_____ tens, or _____.

5. Write the numbers shown in a to d.

a. _____ c. _____

b. _____ d. _____

Finish the work in Ex. 6 to 10.

6. 23 = _____ tens and _____ ones.

7. 57 = _____ tens and _____ ones.

8. 39 = _____ tens and _____ ones.

9. 70 = _____ tens and _____ ones.

10. 68 = _____ tens and _____ ones.

Two-place numbers tell how many tens and how many ones.

The figure in the first place (at the right) tells how many ones. The figure in the second place tells how many tens.

11. Make a ϕ -picture for

26 _____ 51 _____

12. In 65, the 6 in ten's place means 6 _____, or _____. The 5 in one's place means 5 _____. $60 + 5 =$ _____.

13. In 36, the 3 in ten's place means _____ tens, or _____. The _____ in one's place means _____ ones. $30 + 6 =$ _____.

14. In 44, the first 4 (at the right) means 4 _____; the second 4 means 4 _____, or _____.

15. Cross out the figures in ten's place.

50 38 62 39 84 71 96

16. Write the numbers for these:

5 in ten's place, 3 in one's place _____

0 in one's place, 9 in ten's place _____

4 in ten's place, 5 in one's place _____

17. Draw lines between things that mean the same.

6 tens and 9 ones	28
2 tens and 8 ones	45
7 tens and 0 ones	69
4 tens and 5 ones	70

Adding with a Two-Place Number



1. Ruth has pasted 22 stamps on one page of her stamp book. When she pastes 3 more stamps in the spaces, how many will there be in all? $22 + 3 = ?$

a. Put X's in 3 spaces (for the new stamps).

How many in all? ----

b. Use the \pounds -numbers in box A to help you find the sum of 22 and 3. Write the sum in the box.

A



The sum of 22 and 3 is -----

B

2 tens and 2 ones
+ 3 ones

--- tens and --- ones, or ----

c. Box B shows the adding with tens and ones. Finish the work.

2. $43 + 5 = ?$ Finish boxes C and D.

C



The sum of 43 and 5 is -----

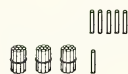
D

4 tens and 3 ones
+ 5 ones

-----, or ----

3. $5 + 31 = ?$ Finish the work in E and F.

E



The sum is

F

5 ones
+ 3 tens and 1 one

--- tens and --- ones,

or ----

4. $24 + 4 = ?$ Use \pounds -pictures in box G. Use tens and ones in box H.

G

$24 + 4 =$ -----

H

5. In box I, add the short way. For $31 + 6$, first add the ones, 1 and 6. Think, "7," and write "7" in one's place in the sum. Then write "3" in ten's place. Do the other examples the same way.

I

$\begin{array}{r} 31 \\ + 6 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 43 \\ \hline \end{array}$	$\begin{array}{r} 72 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ + 54 \\ \hline \end{array}$
--	--	--	--

Addition Families

A	2	12	22	32	42
	<u>+ 3</u>	<u>+ 3</u>	<u>+ 3</u>	<u>+ 3</u>	<u>+ 3</u>

1. In each example in row A, the one's figures to be added are --- and ----. All the sums will end in ----.

2. These examples are in the $2 + 3$ addition family. Write the sums in row A.

3. Write 3 more examples in the $2 + 3$ family in the boxes below.

--	--	--

B	4	14	44	64	94
	<u>+ 3</u>	<u>+ 3</u>	<u>+ 3</u>	<u>+ 3</u>	<u>+ 3</u>

4. In row B, the one's figures to be added in the examples are --- and ----. So these examples are in the ----- family, and all the sums will end in ----.

5. To find the sum for $14 + 3$, *think*, "4 and 3 are 7, so 14 and 3 are 17."

Find all the sums for row B this way.

6. Write 3 more examples in the $4 + 3$ family. Write their sums.

--	--	--

C	5	5	5	5	5
	<u>+ 21</u>	<u>+ 31</u>	<u>+ 51</u>	<u>+ 41</u>	<u>+ 81</u>

7. The examples in row C are in the ----- addition family.

8. Find and write the sums in row C.

9. Write the name of the addition family for each of these examples:

a. $62 + 4$ -----

b. $5 + 33$ -----

Write the sums for rows 10 to 12.

	a	b	c	d	e
10.	23	51	4	3	62
	<u>+ 2</u>	<u>+ 2</u>	<u>+ 34</u>	<u>+ 53</u>	<u>+ 5</u>

11.	6	23	12	81	3
	<u>+ 41</u>	<u>+ 4</u>	<u>+ 6</u>	<u>+ 8</u>	<u>+ 21</u>

12.	62	4	3	26	4
	<u>+ 7</u>	<u>+ 31</u>	<u>+ 55</u>	<u>+ 3</u>	<u>+ 42</u>

To add in Ex. 13a, look at 41 and 5 and *think*, "46." Write the sum. Find all the sums in rows 13 to 15 this quick way.

13.	41	4	61	73	1
	<u>+ 5</u>	<u>+ 25</u>	<u>+ 7</u>	<u>+ 6</u>	<u>+ 81</u>

14.	62	31	8	65	7
	<u>+ 1</u>	<u>+ 4</u>	<u>+ 11</u>	<u>+ 4</u>	<u>+ 91</u>

15.	45	72	1	61	76
	<u>+ 2</u>	<u>+ 2</u>	<u>+ 36</u>	<u>+ 3</u>	<u>+ 2</u>

Finishing Problems

Words are left out in the problems below. Think of the right word to use in each problem and write it on the line, as in Ex. 1. Do not work the problems now.

One day, Father took Ann and Tim to Uncle Fred's farm. They saw many things on the way.

1. In one field, Tim counted 15 cows and 3 sheep. That was how many animals in all?

2. Five of the 15 cows went into the barn. That left how many _____ in the field?

3. Ann saw 16 boats with sails and 3 other boats. In all, she saw how many _____?

4. Tim counted 12 robins and 6 crows. How many _____ was that?

5. 11 boys and 7 girls were riding in a truck. That was how many _____ in all?

6. Ann washed 15 plates and 4 cups. That was how many _____?

Work your problems on another piece of paper. Copy the answers here.

- | | |
|----------|----------|
| 1. _____ | 4. _____ |
| 2. _____ | 5. _____ |
| 3. _____ | 6. _____ |

Addition Families Can Help You

To find the sum in the first example below, add the numbers downward. Use addition families to help you.

Look at 31 and 4. *Think*, "35." Look at 3. *Think*, "38" (for $35 + 3$). Write the sum, 38, for your answer.

Find and write sums for all the examples.

1. 31	41	62	25	71¢
4	3	4	2	3¢
<u>+3</u>	<u>+2</u>	<u>+3</u>	<u>+2</u>	<u>+1¢</u>

2. 42	13	36	25	33¢
1	4	1	1	1¢
<u>+4</u>	<u>+1</u>	<u>+2</u>	<u>+2</u>	<u>+5¢</u>

3. 53	22	74	63	57¢
3	2	1	2	1¢
<u>+3</u>	<u>+2</u>	<u>+2</u>	<u>+3</u>	<u>+1¢</u>

4. $52 + 4 + 1 =$ _____



Can You Tell?

Part 1

Write the answers. Watch the signs.

- | | a | b | c | d | e |
|----|--|--|--|--|--|
| 1. | $\begin{array}{r} 10 \\ -7 \\ \hline \end{array}$ | $\begin{array}{r} 8 \\ -5 \\ \hline \end{array}$ | $\begin{array}{r} 52 \\ +7 \\ \hline \end{array}$ | $\begin{array}{r} 4 \\ +6 \\ \hline \end{array}$ | $\begin{array}{r} 17 \\ -7 \\ \hline \end{array}$ |
| 2. | $\begin{array}{r} 10 \\ -8 \\ \hline \end{array}$ | $\begin{array}{r} 18 \\ -8 \\ \hline \end{array}$ | $\begin{array}{r} 61 \\ +8 \\ \hline \end{array}$ | $\begin{array}{r} 3\text{¢} \\ +6\text{¢} \\ \hline \end{array}$ | $\begin{array}{r} 10\text{¢} \\ -3\text{¢} \\ \hline \end{array}$ |
| 3. | $\begin{array}{r} 4 \\ +65 \\ \hline \end{array}$ | $\begin{array}{r} 13 \\ -3 \\ \hline \end{array}$ | $\begin{array}{r} 9 \\ -6 \\ \hline \end{array}$ | $\begin{array}{r} 10\text{¢} \\ +6\text{¢} \\ \hline \end{array}$ | $\begin{array}{r} 7\text{¢} \\ +3\text{¢} \\ \hline \end{array}$ |
| 4. | $\begin{array}{r} 11 \\ 3 \\ +2 \\ \hline \end{array}$ | $\begin{array}{r} 34 \\ 2 \\ +2 \\ \hline \end{array}$ | $\begin{array}{r} 42 \\ 1 \\ +6 \\ \hline \end{array}$ | $\begin{array}{r} 53 \\ 2 \\ +4 \\ \hline \end{array}$ | $\begin{array}{r} 82 \\ 5 \\ +1 \\ \hline \end{array}$ |
| 5. | $\begin{array}{r} 61 \\ 1 \\ +5 \\ \hline \end{array}$ | $\begin{array}{r} 92 \\ 1 \\ +5 \\ \hline \end{array}$ | $\begin{array}{r} 61 \\ 5 \\ +3 \\ \hline \end{array}$ | $\begin{array}{r} 41\text{¢} \\ 4\text{¢} \\ +3\text{¢} \\ \hline \end{array}$ | $\begin{array}{r} 33\text{¢} \\ 1\text{¢} \\ +3\text{¢} \\ \hline \end{array}$ |

Part 2

Write these numbers in figures:

- sixty-two ----
- fifty-four ----
- twenty-one ----
- eighty ----
- 7 tens and 3 ones -----
- 3 tens and no ones -----
- 4 tens and 7 ones -----
- Make a ϕ -picture to find the sum of 32 and 5.

9. Using tens and ones, show how to find the sum of 24 and 3.

10. In the left-to-right way write two examples in the $3 + 5$ A. family.

11. How many cents in a dime? -----

12. What do we call the answer for an addition example? -----

13. Write an addition question.

John learned 6 new words one day and 4 more the next day.

14. Write a how-many-gone question.

Ted has a hole in his pocket. He has only 3 of his 13 pennies left.

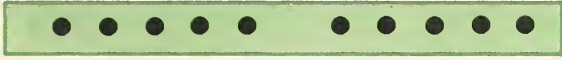
15. Write a how-many-left question.

Jack ate 3 of the 9 cookies.

Subtracting to Find the Other Part of a Number

1. Ted and his father have put 10 rocks around the new pool. Father put in 7 rocks. Ted put in the rest. How many was that?

a. Cross out 7 dots in the box.



Ted put in _____ rocks.

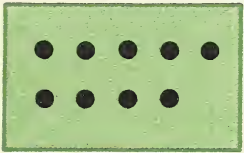
b. You know a number, 10, and one of its parts, 7. Can you subtract to find the other part?

2. They put 9 fish in the pool. If Ted put in 4, how many fish did Father put in?

a. This problem says that one of the two parts of 9 is -----.

b. Is this a find-the-other-part problem?

c. Change the dot picture to find the answer.



Father put _____ fish into the pool.

d. Is the example $9 - 4 = ?$ -----

If you know a number and one of its two parts, subtract to find the other part.

Write find-the-other-part questions for problems 3 to 5.

3. Mother has planted 8 of her 10 tulips.



4. Two of the 12 oranges we bought were no good. -----

5. Joe missed 2 of the 10 problems in the test. -----

Now find the answers. Write them here.

3. ----- 4. ----- 5. -----

6. Write the missing numbers.

a. Six of the 16 balloons are red. The rest, or ----- balloons, are yellow.

b. If one part of 10 is 6, the other part is -----.

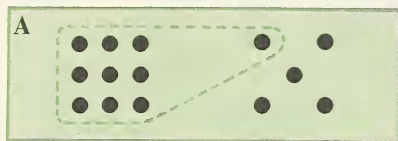
Adding by Making a 10-Group



1. How many books in all are there in a pile of 9 books and a pile of 5 books?

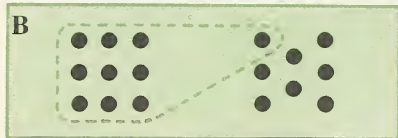
a. Count the books in the picture. How many?

b. The dots in box A stand for the books. You can make a 10-group by putting 1 dot from the smaller group with the larger group. Then count the dots left over.



$$10 + 4 = 14, \text{ so } 9 + 5 = \dots$$

2. Box B. How many are 9 and 8?



$$10 + 7 = \dots, \text{ so } 9 + 8 = \dots$$

3. Box C. $4 + 8 = ?$



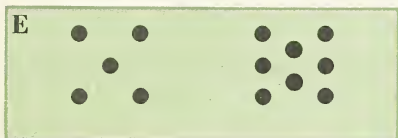
$$2 + 10 = \dots, \text{ so } 4 + 8 = \dots$$

4. In box D, make a 10 to find the sum of 7 and 9.



$$6 + 10 = \dots, \text{ so } 7 + 9 = \dots$$

5. Change box E to find $5 + 8$. $5 + 8 = \dots$



6. Change box F to find $6 + 7$. $6 + 7 = \dots$



When the sum of any two 1-place numbers is more than 10, find the sum by making a 10-group and then adding the ones that are left.

There is a quick way to work these examples. For Ex. 7a below, look at $9 + 2$. *Think*, “ $10 + 1$.” Write, “11.”

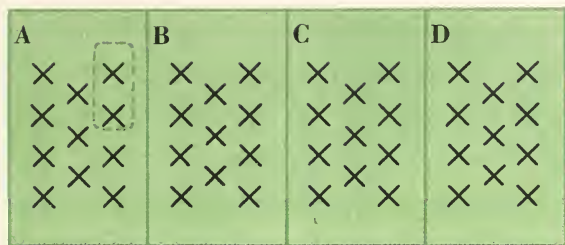
Find sums the quick way. Write them.

	a	b	c	d	e	f	g	h	i	j	k
7.	9	7	8	6	9	3	7	6	7	9	6
	<u>+ 2</u>	<u>+ 7</u>	<u>+ 5</u>	<u>+ 8</u>	<u>+ 7</u>	<u>+ 9</u>	<u>+ 8</u>	<u>+ 9</u>	<u>+ 5</u>	<u>+ 4</u>	<u>+ 5</u>

Write remainders.

8.	16	8	10	18	8	13	9	10	15	8	10
	<u>- 6</u>	<u>- 5</u>	<u>- 7</u>	<u>- 8</u>	<u>- 3</u>	<u>- 3</u>	<u>- 5</u>	<u>- 6</u>	<u>- 5</u>	<u>- 6</u>	<u>- 4</u>

Parts of 11 and Facts for 11



1. Look at boxes A to D. There are X's in each box. In the boxes, draw rings around these groups of X's:

Box A, around 2 X's. Box B, around 5 X's.
Box C, around 7 X's. Box D, around 3 X's.

2. Write the parts of 11. Use boxes A to D for help. The parts of 11 are:

- | | |
|----------------|----------------|
| a. 2 and | e. 5 and |
| b. 6 and | f. 8 and |
| c. 3 and | g. 4 and |
| d. 7 and | h. 9 and |

3. Write the 4 facts in the whole story for each of boxes A to D.

Box A. $2 + \dots = 11$ $11 - 2 = \dots$

$\dots + 2 = 11$ $11 - \dots = 2$

Box B.

Box C.

Box D.

4. There are 8 addition facts with 11 as the sum. Write them in column A. below.

A.

S.

-----	-----
-----	-----
-----	-----
-----	-----
-----	-----
-----	-----
-----	-----
-----	-----

5. In column S., write the 8 subtraction facts that begin with 11.

Write the missing numbers.

	a	b	c	d	e
6.	9	11	3	4	11
	$\frac{+}{11}$	$\frac{-6}{11}$	$\frac{+}{11}$	$\frac{+}{11}$	$\frac{-2}{11}$
7.	7	11	3	1	5
	$\frac{+}{11}$	$\frac{-8}{11}$	$\frac{+5}{11}$	$\frac{+2}{11}$	$\frac{+4}{11}$

8. Ann can buy an 11¢ candy bar with her nickel and more cents.

9. Joe can buy an 11¢ candy bar if he puts¢ with his 8¢.

Adding and Subtracting Like-Numbers

When numbers stand for groups of things that are alike in some way, they are called like-numbers.

Only like-numbers can be added or subtracted.

Write an addition question where you see "A." Write a subtraction question where you see "S."

Use the right words in your questions, so you will have like-numbers.

1. Seven girls and 4 boys came to Sue's birthday party.

A. _____

2. All but 2 of the 7 girls came in cars.

S. _____

3. A bunch of 10 flowers was on the table. Five of the flowers in the bunch were roses.

S. _____

4. On her birthday Sue got 3 books, 2 dolls, and 2 paint boxes.

A. _____

5. A picture in one of the books showed 6 buildings. Three were houses.

S. _____

Practice with n

Write the number for n after each example.

1. $11 - 4 = n$ ----

8. $5 - n = 4$ ----

15. $11 - n = 6$ ----

2. $10 - n = 7$ ----

9. $11 - 3 = n$ ----

16. $4 + 7 = n$ ----

3. $n + 8 = 11$ ----

10. $5 + n = 11$ ----

17. $6 + 5 = n$ ----

4. $6 - 5 = n$ ----

11. $11 - 7 = n$ ----

18. $11 - 2 = n$ ----

5. $7 + n = 11$ ----

12. $8 + 3 = n$ ----

19. $10 - 6 = n$ ----

6. $11 - 8 = n$ ----

13. $11 - 9 = n$ ----

20. $9 + n = 11$ ----

7. $2 + 9 = n$ ----

14. $6 + 4 = n$ ----

21. $2 + 7 = n$ ----

Subtracting from a Two-Place Number

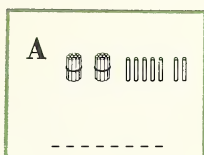


1. Mrs. Lee bought 4 of the 27 spools of thread in the box. How many spools of thread were left? $27 - 4 = ?$

a. Cross out 4 spools. Count the rest.

How many are left? $27 - 4 = \text{-----}$

b. Box A shows a picture for 27. Cross out 4 ones. Then write the remainder in box A.



c. Box B shows the subtraction with tens and ones. Write the answer in box B.

B

$$\begin{array}{r} 2 \text{ tens and } 7 \text{ ones} \\ - \quad \quad \quad 4 \text{ ones} \\ \hline 2 \text{ tens and } 3 \text{ ones, or } \text{-----} \end{array}$$

2. $48 \text{ eggs} - 6 \text{ eggs} = \text{how many eggs?}$

C



a. Change picture C to find the remainder.

$$48 - 6 = \text{-----}$$

b. Use tens and ones in box D for the same example. $48 - 6 = \text{-----}$

D

$$\begin{array}{r} \text{----} \text{ tens and } \text{----} \text{ ones} \\ - \text{-----} \text{ ----} \text{ ones} \\ \hline \text{----} \text{ tens and } \text{----} \text{ ones} \end{array}$$

3. If one part of 36 is 3, what is the other part? In box E, make a ϕ -picture to find the answer.

E

$$36 - 3 = \text{-----}$$

4. What is left when you take 6 from 67? In box F, use tens and ones to find the answer.

F

5. There is a short way to subtract. In box G, first look at the ones, 7 and 6. *Think, "1."* Write "1" in one's place. There are no tens to subtract, so write "6" in ten's place in the answer.

$$\begin{array}{r} \text{G} \quad 67 \\ - 6 \\ \hline \end{array}$$

Subtract the short way.

	a	b	c	d	e
6.	$\begin{array}{r} 46 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 39 \\ - 5 \\ \hline \end{array}$	$\begin{array}{r} 76 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 58 \\ - 3 \\ \hline \end{array}$	$\begin{array}{r} 27 \\ - 5 \\ \hline \end{array}$
7.	$\begin{array}{r} 94 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 87 \\ - 3 \\ \hline \end{array}$	$\begin{array}{r} 59 \\ - 7 \\ \hline \end{array}$	$\begin{array}{r} 28 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ - 8 \\ \hline \end{array}$
8.	$\begin{array}{r} 35 \\ - 3 \\ \hline \end{array}$	$\begin{array}{r} 69 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 97 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 45 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 88 \\ - 5 \\ \hline \end{array}$

There Are Subtraction Families, Too

A	5	15	25	35	45
	$\begin{array}{r} 5 \\ -2 \\ \hline 3 \end{array}$	$\begin{array}{r} 15 \\ -2 \\ \hline 13 \end{array}$	$\begin{array}{r} 25 \\ -2 \\ \hline 23 \end{array}$	$\begin{array}{r} 35 \\ -2 \\ \hline 33 \end{array}$	$\begin{array}{r} 45 \\ -2 \\ \hline 43 \end{array}$

1. Row A. In one's place you subtract
 --- from ---, and the figure in one's place
 in each answer is ---.

Row A shows part of the $5 - 2$ subtraction family.

2. Write two more examples in this same subtraction family in the boxes below.

--	--

B	18	38	98	48	78
	$\begin{array}{r} 18 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 38 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 98 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 48 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ -6 \\ \hline \end{array}$

3. Row B. In one's place you subtract
 --- from ---, and the figure in one's place
 in each answer will be ---.

a. These examples are part of the subtraction family for -----.

b. Write the answers for row B.

c. Write two more examples in this same subtraction family.

--	--

4. Write two examples for these families:

a. $3 - 2$ family b. $6 - 4$ family

5. Under each of these examples write the name of its subtraction family.

a.	$\begin{array}{r} 79 \\ -3 \\ \hline \end{array}$	b.	$\begin{array}{r} 47 \\ -5 \\ \hline \end{array}$	c.	$\begin{array}{r} 38 \\ -4 \\ \hline \end{array}$
----	---	----	---	----	---

To find the answer for the first example in row C, *think*, "4 from 7 is 3, so 4 from 37 is 33." Write "33" as the answer.

C	37	68	56	75	29
	$\begin{array}{r} 37 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 56 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 75 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 29 \\ -4 \\ \hline \end{array}$

6. For the second example in row C, *think*, "4 from --- is ---, so 4 from 68 is -----."

7. Write the other answers for row C.

8. For example 9a, *think*, "2 from 8 is ---, so 2 from 18 is -----."

Write answers for all these examples:

	a	b	c	d	e
9.	$\begin{array}{r} 18 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 39 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 53 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 86 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 27 \\ -3 \\ \hline \end{array}$
10.	$\begin{array}{r} 45 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 74 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 98 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 29 \\ -3 \\ \hline \end{array}$
11.	$\begin{array}{r} 36 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 55 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 88 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 24 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 97 \\ -2 \\ \hline \end{array}$

The Hike

Work here.

Find answers and write them in the box.
Do your work beside the picture.

1. Eleven boys and 2 men went on the hike. In all, ? people went on the hike.

2. Nine of the 11 boys brought food. The other ? boys brought things for games.

3. In one game, 6 of the 11 boys played on one team. The rest of the boys played on another team. ? boys were on that team.

4. Tim brought 27 hot-dog rolls. After lunch 6 rolls were left. They ate ? rolls.

5. Two of the 11 boys went home by bus. The other ? boys walked.



Answers: 1. 2.

3. 4. 5.

Subtracting More Quickly

A

$$\begin{array}{r} 48 \\ -3 \\ \hline \end{array}$$

Box A. You have subtracted by thinking, "3 from 8 is 5, so 3 from 48 is 45."

There is a quicker way. You can look at the numbers and *think*, "45" because the ten's figure, 4, does not change in the answer.

B

$$\begin{array}{r} 27 \\ -5 \\ \hline \end{array}$$

Box B. Subtract the long way, then the quick way. Is your answer the same?

C

$$\begin{array}{r} 49 \\ -2 \\ \hline \end{array}$$

Box C. Subtract the quick way.

In rows 1 to 4, subtract the quick way.
Use subtraction families in your work.

	a	b	c	d	e
1.	$\begin{array}{r} 29 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 73 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 38 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 88 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 59 \\ -4 \\ \hline \end{array}$
2.	$\begin{array}{r} 18 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 49 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 66 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 35 \\ -2 \\ \hline \end{array}$
3.	$\begin{array}{r} 37 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 96 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 77 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 34 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 69 \\ -3 \\ \hline \end{array}$
4.	$\begin{array}{r} 26 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 19 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 45 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 87 \\ -6 \\ \hline \end{array}$

A Page of Practice

Part 1

Write the remainders.

a	b	c	d	e	f	g	h	i	j
1. $\begin{array}{r} 29 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 36 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 98 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 29 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 75 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 19 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 48 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 35 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ -6 \\ \hline \end{array}$
2. $\begin{array}{r} 59 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 48 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 18 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 39 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 97 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 49 \\ -3 \\ \hline \end{array}$

Part 2

Write the answers. Watch the signs!

1. $\begin{array}{r} 5 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +9 \\ \hline \end{array}$
2. $\begin{array}{r} 7 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ +7 \\ \hline \end{array}$
3. $\begin{array}{r} 11 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +8 \\ \hline \end{array}$
4. $\begin{array}{r} 2 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +1 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -1 \\ \hline \end{array}$

Part 3

Write the answers. Watch the signs!

1. $\begin{array}{r} 78 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 83 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +26 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 73 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 89 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 52 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 47 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 86 \\ -3 \\ \hline \end{array}$
2. $\begin{array}{r} 18 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ +23 \\ \hline \end{array}$	$\begin{array}{r} 65 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +10 \\ \hline \end{array}$	$\begin{array}{r} 64 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 31 \\ 2 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ 4 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 21 \\ 5 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ 2 \\ +6 \\ \hline \end{array}$

3. $41 + 6 + 2 = \dots\dots$

5. $2 + 6 + 3 = \dots\dots$

4. $3 + 3 + 5 = \dots\dots$

6. $32 + 4 + 1 = \dots\dots$

7. $4 + 5 + 2 = \dots\dots$

Telling Time



1. Clock A shows 9 o'clock. The short hand (the hour hand) points to ---, and the long hand (the minute hand) to ----.

2. In B, the hour hand points to ---, the minute hand to ----. It is --- o'clock.

3. Draw the hands on clock C to make the clock show 6 o'clock.

4. Make clock D show 2 o'clock.



5. E shows half past 3. The hour hand is between --- and ----. The minute hand is at ---, half way around the clock.

6. Clock F shows half past ----.

7. Make clock G show half past 2.



8. Make clock H show half past 7.

9. Clock I shows quarter past 7. The minute hand is at ----. The hour hand is just after ----.

10. Clock J shows quarter before 10. The hour hand is just before ----. The minute hand points to ----.



11. Write the time shown

a. on clock K -----

b. on clock L -----

Time for Practice!

Write the answers. Watch the signs!

	a	b	c	d	e	f	g	h	i	j
1.	7	18	11	10	15	11	10	11	16	10
	<u>+ 4</u>	<u>- 8</u>	<u>- 5</u>	<u>+ 7</u>	<u>- 5</u>	<u>- 3</u>	<u>+ 3</u>	<u>- 4</u>	<u>- 6</u>	<u>+ 4</u>
2.	5	77	68	25	39	58	83	91	44	7
	<u>+ 53</u>	<u>- 6</u>	<u>- 5</u>	<u>+ 4</u>	<u>- 5</u>	<u>- 6</u>	<u>+ 6</u>	<u>+ 7</u>	<u>- 3</u>	<u>+ 62</u>

Finding and Learning A. and S. Facts for 12

Up 1 (A way you have learned)	Other A. Fact	Two S. Facts
$2 + 9 = 11$, so $3 + 9 = \dots$	$9 + 3 = \dots$	$12 - 3 = \dots$ $12 - 9 = \dots$
$4 + 7 = 11$, so $5 + 7 = \dots$	\dots	\dots \dots
$8 + 3 = 11$, so $8 + 4 = \dots$	\dots	\dots \dots
Up 2 (Try this new way)	Other A. Fact	Two S. Facts
$9 + 1 = 10$, so $9 + 3 = \dots$	\dots	\dots \dots
$2 + 8 = 10$, so $4 + 8 = \dots$	\dots	\dots \dots
$5 + 5 = 10$, so $7 + 5 = \dots$	\dots	\dots \dots

1. Finish the table above, finding whole stories for 12.

2. Using your ruler to find "the other part," finish the parts of 12 in the box.

Parts of 12
a. 3 and \dots
b. 4 and \dots
c. 5 and \dots
d. 6 and \dots

3. Write the four A. and S. facts you can make from Ex. b in the box (the whole story in A. and S.).

\dots
 \dots
 \dots
 \dots

4. Write two S. facts you can make from Ex. c. \dots

5. How many A. and S. facts can you make from Ex. d? \dots Write them.

\dots

6. Finish the work.

a. $3 + 8 = 11$, so $4 + 8 = \dots$

Then (use whole story): $8 + 4 = \dots$

$12 - 8 = \dots$ $12 - 4 = \dots$

b. $5 + 5 = 10$, so $5 + 7 = \dots$

Then (use whole story): $7 + 5 = \dots$

$12 - 7 = \dots$ $12 - 5 = \dots$

c. $1 + 9 = 10$, so $\dots + 9 = 12$

Then (use whole story): $9 + \dots = 12$

$12 - 9 = \dots$ $12 - \dots = 9$

7. Write the missing numbers.

a. $12 - 6 = \dots$ d. $3 + \dots = 12$

b. $12 - 5 = \dots$ e. $7 + \dots = 12$

c. $12 - 9 = \dots$ f. $\dots - 4 = 8$

Do You Know?

Part 1


Add or subtract in these examples.

- | | | | | | | |
|---|---|--|--|---|--|---------------------------------|
| 1. $\begin{array}{r} 3 \\ + 9 \\ \hline \end{array}$ | $\begin{array}{r} 11 \\ - 4 \\ \hline \end{array}$ | $\begin{array}{r} 12 \\ - 7 \\ \hline \end{array}$ | $\begin{array}{r} 4 \\ + 6 \\ \hline \end{array}$ | $\begin{array}{r} 12 \\ - 9 \\ \hline \end{array}$ | $\begin{array}{r} 8 \\ + 4 \\ \hline \end{array}$ | 4. $46¢ + 2¢ = \dots\dots$ |
| 2. $\begin{array}{r} 72 \\ + 6 \\ \hline \end{array}$ | $\begin{array}{r} 29 \\ - 3 \\ \hline \end{array}$ | $\begin{array}{r} 16 \\ - 6 \\ \hline \end{array}$ | $\begin{array}{r} 58 \\ - 4 \\ \hline \end{array}$ | $\begin{array}{r} 3 \\ + 55 \\ \hline \end{array}$ | $\begin{array}{r} 59 \\ - 7 \\ \hline \end{array}$ | 5. $3 + 4 + 5 = \dots\dots$ |
| 3. $\begin{array}{r} 10 \\ + 9 \\ \hline \end{array}$ | $\begin{array}{r} 6¢ \\ + 6¢ \\ \hline \end{array}$ | $\begin{array}{r} 65¢ \\ - 4¢ \\ \hline \end{array}$ | $\begin{array}{r} 4 \\ 4 \\ + 4 \\ \hline \end{array}$ | $\begin{array}{r} 4¢ \\ 5¢ \\ + 3¢ \\ \hline \end{array}$ | $\begin{array}{r} 22¢ \\ 3¢ \\ + 4¢ \\ \hline \end{array}$ | 6. $12 + 2 + 5 = \dots\dots$ |
| | | | | | | 7. $31¢ + 3¢ + 3¢ = \dots\dots$ |
| | | | | | | 8. $7¢ + 2¢ + 3¢ = \dots\dots$ |

Part 2

A



1. Box A shows a -picture for the example $32 - 10 = 22$.
2. Find the sum of 32 and 6 by using tens and ones. Write in box B.

B

3. Write these numbers in figures:

forty-two $\dots\dots$ eighty-one $\dots\dots$

seventy $\dots\dots$ sixty-nine $\dots\dots$

4. Write the other part of 12 if 3 is one part $\dots\dots$; if 8 is one part $\dots\dots$.

C

61 31 54 13 45 36

5. Copy the number in box C that
- has 6 in ten's place $\dots\dots$
 - is equal to 4 tens and 5 ones $\dots\dots$
 - is a teen number $\dots\dots$
 - means fifty-four $\dots\dots$
6. Write an example in which you take a one-place number from a two-place number.
- $\dots\dots\dots$
7. 9 and 5 are parts of 14. Write the 4 A. and S. facts you can make.
- $\dots\dots\dots$
- $\dots\dots\dots$
8. $7 + 7 = 14$. How many other facts are there in the whole story? $\dots\dots$

Measuring with Inches and with Feet

This line is just 1 inch long: _____ It takes 12 inches to make a foot. Look at a ruler.

1. Guess how long or how wide these things are in inches. Then measure with a ruler.

	Guess Measure	Ruler Measure
--	---------------	---------------

How long is your pencil?	-----	-----
--------------------------	-------	-------

How wide is this book?	-----	-----
------------------------	-------	-------

How long is line A below?	-----	-----
---------------------------	-------	-------

How long is line B?	-----	-----
---------------------	-------	-------

A _____

B _____

We measure little things in inches and larger things in feet.

2. Put an X on the things in the big picture that we would measure in inches.

3. Use your finger inch to measure the things in the list below. Then measure them with a ruler.

	Finger Inch	Ruler
--	-------------	-------

A crayon, how long	-----	-----
--------------------	-------	-------

Another book, how long	-----	-----
------------------------	-------	-------

how wide	-----	-----
----------	-------	-------

4. Measure these things with your arm foot. Then measure with your ruler.

	Arm Foot	Ruler
--	----------	-------

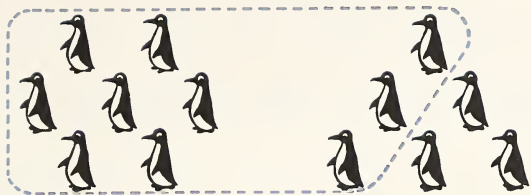
A table, how long	-----	-----
-------------------	-------	-------

how wide	-----	-----
----------	-------	-------

A chair, how tall	-----	-----
-------------------	-------	-------



Addition and Subtraction Facts for 13



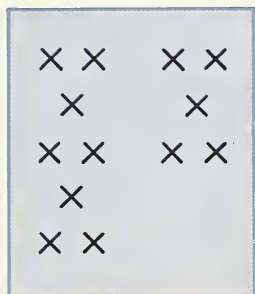
1. $7 + 6 = ?$ Make a ten.

$10 + 3 = \underline{\hspace{2cm}}$, so $7 + 6 = \underline{\hspace{2cm}}$.

a. The A. fact that goes with $7 + 6 = 13$ is _____.

b. The 2 S. facts in the whole story are:

_____ and _____



2. $8 + 5 = ?$ Make a ten.

 $10 + 3 = \text{-----},$

so $8 + 5 = \underline{\hspace{1cm}}$.

3. Write the 4 facts in the whole story.



4. $4 + 9 = ?$ Make

a ten. $3 + 10 = \underline{\hspace{1cm}}$,

so $4 + 9 = \underline{\hspace{1cm}}$.

5. Write the 4 facts in the whole story.

6. Use the rows of X's to help you finish the table of parts of 13. Then write the six A. facts for 13, and the six S. facts.

Parts of 13

a. $x x x x \quad x x x x x x x x$ 4 and 9

b. x x x x x x x x x x x x x 5 and ____

c. x x x x x x x x x x x x 6 and ____

d. xxxxxxxx xxxxxx ---- and ----

e. xxxxxxxxxxxx and

f. xxxxxxxxxx xxxxx _____ and _____

A. Facts for 13

 $4 + \text{-----} = 13$ $7 + \text{-----} = 13$ $5 + \text{-----} = 13$ $8 + \text{-----} = 13$ $6 + \text{-----} = 13$ $9 + \text{-----} = 13$

S. Facts for 13

 $13 - 4 = \underline{\hspace{2cm}}$ $13 - \underline{\hspace{2cm}} = 4$ $13 - 5 = \underline{\hspace{2cm}}$ $13 - \underline{\hspace{2cm}} = 5$ $13 - 6 = \underline{\quad\quad\quad}$ $13 - \underline{\quad\quad\quad} = 6$

7. Write the missing numbers.

a	b	c	d	e
13	5	9	13	13

$$\frac{-}{9} \quad \frac{+}{13} \quad \frac{+}{13} \quad \frac{-}{7} \quad \frac{-}{5}$$

f	g	h	i	j
13	13	4	7	13

$$\frac{-}{6} \quad \frac{-}{4} \quad \frac{+}{13} \quad \frac{+}{13} \quad \frac{-}{8}$$

Addition and Subtraction Facts for 14



1. Cover 6 of the 14 dots in the box.

a. The other part of 14 is

b. The two S. facts for 6, 8, and 14 are:

c. The two A. facts in this whole story are:

2. Cover 9 dots in the box. The other part of 14 is The whole story is:

3. Cover 7 dots in the box. The other part of 14 is The whole story is:

4. Write all the parts of 14 you have found.

5 and 7 and 6 and

8 and 9 and

Write the missing numbers.

	a	b	c	d	e
5.	6	14	7	14	14

$\frac{+}{14}$	$\frac{-}{9}$	$\frac{+}{14}$	$\frac{-}{8}$	$\frac{-}{5}$
----------------	---------------	----------------	---------------	---------------

6.	8	14	9	14	5
----	---	----	---	----	---

$\frac{+}{14}$	$\frac{-}{7}$	$\frac{+}{14}$	$\frac{-}{6}$	$\frac{+}{14}$
----------------	---------------	----------------	---------------	----------------

Making a Ten

In rows 1 and 2, find wrong sums and draw rings around them.

If you need help, add by making a 10.

	a	b	c	d	e	f	g	h	i	j
1.	9	6	4	5	7	3	6	5	5	9
	$\frac{+5}{14}$	$\frac{+8}{13}$	$\frac{+9}{12}$	$\frac{+6}{13}$	$\frac{+5}{12}$	$\frac{+9}{11}$	$\frac{+7}{14}$	$\frac{+7}{12}$	$\frac{+8}{13}$	$\frac{+4}{15}$

2.	7	7	8	9	6	8	4	7	8	6
	$\frac{+7}{13}$	$\frac{+4}{12}$	$\frac{+5}{14}$	$\frac{+3}{12}$	$\frac{+6}{11}$	$\frac{+6}{14}$	$\frac{+8}{13}$	$\frac{+6}{15}$	$\frac{+4}{12}$	$\frac{+5}{11}$

Find answers by making a 10.

3.	5	7	9	8	7	9	6	4	8	7
	$\frac{+9}{14}$	$\frac{+7}{14}$	$\frac{+3}{12}$	$\frac{+6}{14}$	$\frac{+5}{12}$	$\frac{+5}{14}$	$\frac{+6}{12}$	$\frac{+9}{13}$	$\frac{+4}{12}$	$\frac{+6}{13}$

Practice on Addition and Subtraction Facts

Part 1

Write sums quickly. Skip examples that are hard for you.

	a	b	c	d	e	f	g	h	i	j
1.	$\begin{array}{r} 6 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ + 9 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ + 4 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ + 9 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ + 8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ + 4 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ + 8 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ + 6 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ + 4 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ + 6 \\ \hline \end{array}$
2.	$\begin{array}{r} 8 \\ + 6 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ + 5 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ + 2 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ + 8 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ + 3 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ + 3 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 6 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ + 5 \\ \hline \end{array}$
3.	$\begin{array}{r} 4 \\ + 9 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 5 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ + 9 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ + 8 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ + 7 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ + 6 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ + 5 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ + 3 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ + 7 \\ \hline \end{array}$

Copy examples that were hard or that you missed. Find their sums by going “up 1” or “down 1” from facts you know, by using whole stories, or by making a 10.

Make study cards, as shown, for the hard facts. Then use the cards for practice.

Front	Back
$\begin{array}{r} 5 \\ + 7 \\ \hline ? \end{array}$	$\begin{array}{r} 5 \\ + 7 \\ \hline 12 \end{array}$

Part 2

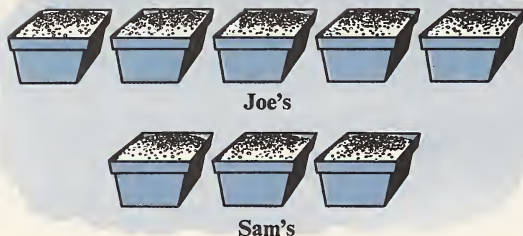
Write remainders quickly. Skip hard examples.

	a	b	c	d	e	f	g	h	i	j
1.	$\begin{array}{r} 12 \\ - 9 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ - 6 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ - 6 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ - 9 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ - 8 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ - 5 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ - 9 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ - 5 \\ \hline \end{array}$
2.	$\begin{array}{r} 11 \\ - 3 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ - 7 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ - 6 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ - 8 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ - 7 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ - 9 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ - 7 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ - 9 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ - 7 \\ \hline \end{array}$
3.	$\begin{array}{r} 13 \\ - 8 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ - 7 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ - 3 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ - 8 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ - 5 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ - 8 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ - 6 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ - 5 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ - 6 \\ \hline \end{array}$

Copy examples that were hard or that you missed. Work out remainders by using other facts or by using whole stories.

Make study cards for the examples that were hard for you. Use the cards for practice.

Subtracting to Find Differences



1. How many more boxes of berries did Joe pick than Sam?

a. Put X's on Sam's 3 boxes and 3 of Joe's. How many have no X's?

b. This is a find-the-difference story. You can get the answer by subtracting. The number question is $5 - 3 = ?$

2. How much larger is 9 than 7? (Box A.)

a. Cross out 7 dots in each column. How many more is 9 than 7?

b. To find the difference between 9 and 7, can you subtract?

c. Write the example.



3. How much smaller is 6 than 10?

a. Change the rows of dots in box B. How many less is 6 than 10?

b. Write the subtraction example with its answer.

C

4. How many fewer are 3 than 8? Draw a dot picture in box C to find the answer. Then write the example with its answer.

5. Write the missing words or numbers.

a. 12 is ----- more than 9.

b. 8 is 3 less than -----.

c. 7 is 5 ----- than 12.

d. The difference between 7 and 13 is -----.

e. 8 is larger than 6 by -----.

f. 5 is smaller than 8 by -----.

Find the differences in rows 6 to 8.

	a	b	c	d	e
6.	46 <u>-4</u>	18 <u>-4</u>	29 <u>-7</u>	57 <u>-6</u>	35 <u>-4</u>
7.	79 <u>-4</u>	47 <u>-5</u>	96 <u>-2</u>	39 <u>-6</u>	58 <u>-2</u>
8.	28 <u>-6</u>	45 <u>-3</u>	27 <u>-4</u>	78 <u>-3</u>	67 <u>-2</u>

Finding the difference between two numbers is comparing them. We compare by subtracting.

Making Difference Problems

Write find-the-difference questions.

1. Ann bounced her ball 18 times before she missed. Jean bounced hers 8 times.



4. Jean's mother is 29 years old. Jean is 8 years old.

5. In a test, Ann got 10 examples right. Jean got 7 right.

2. Jean made 14 baskets. Ann made 9.

6. Jean saved 12¢, and Ann saved only 5¢.

3. Ann has 9 pencils in her desk. Jean has 5.

Write your answers here: 1. _____

2. _____ 3. _____ 4. _____ 5. _____ 6. _____

Finding What **n** Means

Find what **n** means in each example. Then write the number for **n** in the box below.

1. $14 - n = 5$

5. $n + 5 = 13$

10. $13 - 4 = n$

15. $13 - 6 = n$

2. $13 - 5 = n$

6. $13 - 7 = n$

11. $6 + 8 = n$

16. $9 + n = 14$

3. $5 + n = 14$

7. $13 - n = 9$

12. $13 - n = 7$

17. $14 - n = 8$

4. $13 - n = 8$

8. $8 + 6 = n$

13. $14 - 6 = n$

18. $n + 7 = 13$

9. $14 - 7 = n$

14. $n + 9 = 13$

1. _____ 3. _____ 5. _____ 7. _____ 9. _____ 11. _____ 13. _____ 15. _____ 17. _____

2. _____ 4. _____ 6. _____ 8. _____ 10. _____ 12. _____ 14. _____ 16. _____ 18. _____

Adding Three Numbers and Checking Your Work

A	6
	4
	<u>+ 2</u>

1. Box A. Add the numbers downward. *Think*, “6 and 4 are 10, 10 and 2 are 12.” Write the sum in the box.

To check, add upward. *Think*, “2 and 4 are 6, 6 and 6 are 12.” You should get the same sum. Do you?

B	7 ¢
	3 ¢
	<u>+ 4 ¢</u>

2. Box B. Add downward.

Think, “7 and ---- are 10. 10 and ---- are ----.” Write the sum in the box. Check by

adding upward. *Think*, “4 and ---- are ----, ---- and 7 are ----.” Is your sum the same? -----

Write the sums. Check your work.

	a	b	c	d	e
3.	5	8	4	8	5 ¢
	7	6	9	5	5 ¢
	<u>+ 4</u>	<u>+ 5</u>	<u>+ 3</u>	<u>+ 5</u>	<u>+ 4 ¢</u>

4.	6	7	4	8	7 ¢
	7	4	6	3	5 ¢
	<u>+ 4</u>	<u>+ 7</u>	<u>+ 3</u>	<u>+ 2</u>	<u>+ 7 ¢</u>

5.	9	7	6	1	5 ¢
	2	3	8	7	9 ¢
	<u>+ 8</u>	<u>+ 8</u>	<u>+ 3</u>	<u>+ 2</u>	<u>+ 4 ¢</u>

6.	5	6	8	9	4 ¢
	8	5	1	4	7 ¢
	<u>+ 5</u>	<u>+ 7</u>	<u>+ 5</u>	<u>+ 6</u>	<u>+ 2 ¢</u>

Adding When 0 (Zero) Is One Figure

1. 6 cats and no cats (0 cats) = ---- cats.

$$6 + 0 = \text{----}$$

2. 3 dogs and no dogs (0 dogs) = ---- dogs.

$$3 + 0 = \text{----}$$

3. 0 tents and 4 tents are ---- tents.

$$0 + 4 = \text{----}$$

4. 0 houses and 9 houses are ---- houses.

$$0 + 9 = \text{----}$$

In addition facts, if 0 is one number, the sum is the other number.

For Ex. 5a, *think*, “6” (for $6 + 0$), “13.”
For Ex. 5b, *think*, “40, 46, 49.”

Add. Write the sums.

	a	b	c	d	e
5.	6	40	4	50	8 ¢
	0	6	0	5	0 ¢
	<u>+ 7</u>	<u>+ 3</u>	<u>+ 7</u>	<u>+ 0</u>	<u>+ 4 ¢</u>

6.	20	0	73	7	80 ¢
	7	7	0	5	5 ¢
	<u>+ 2</u>	<u>+ 6</u>	<u>+ 6</u>	<u>+ 0</u>	<u>+ 4 ¢</u>

7. $8 + 0 + 5 = \text{---}$ 8. $40 + 3 + 5 = \text{---}$

Practice in Adding Three Numbers

Write the sums. Check your work.

	a	b	c	d	e	f	g	h	i	j
1.	9	3	5	0	3	6	2	8	7 ¢	5 ¢
	1	4	0	7	2	7	4	0	3 ¢	9 ¢
	<u>+ 0</u>	<u>+ 7</u>	<u>+ 7</u>	<u>+ 7</u>	<u>+ 9</u>	<u>+ 4</u>	<u>+ 6</u>	<u>+ 4</u>	<u>+ 9 ¢</u>	<u>+ 3 ¢</u>

2.	0	5	2	6	5	8	6	5	1 ¢	4 ¢
	5	2	9	0	3	2	0	8	4 ¢	7 ¢
	<u>+ 6</u>	<u>+ 4</u>	<u>+ 5</u>	<u>+ 8</u>	<u>+ 5</u>	<u>+ 3</u>	<u>+ 3</u>	<u>+ 0</u>	<u>+ 9 ¢</u>	<u>+ 4 ¢</u>


Add. For a check, do each example again.

3.	21	50	76	80	13	42	11	90	24 ¢	61 ¢
	3	2	0	8	3	0	4	1	0 ¢	3 ¢
	<u>+ 4</u>	<u>+ 7</u>	<u>+ 2</u>	<u>+ 0</u>	<u>+ 3</u>	<u>+ 5</u>	<u>+ 4</u>	<u>+ 8</u>	<u>+ 5 ¢</u>	<u>+ 2 ¢</u>

4. $40 + 3 + 5 = \text{-----}$ 6. $7 + 0 + 3 = \text{-----}$ 8. $70¢ + 6¢ + 2¢ = \text{-----}$
5. $3 + 9 + 6 = \text{-----}$ 7. $31 + 2 + 4 = \text{-----}$ 9. $9¢ + 2¢ + 6¢ = \text{-----}$

Can You Tell?

Each of these questions may be answered by "Yes" or "No." Draw a line under the right answer.

1. Is the sum of $0 + 5$ the same as the sum of $5 + 0$?	Yes	No	6. Does  mean 24?	Yes	No
2. To compare numbers, do you add?	Yes	No	7. Are there 6 tens in 46?	Yes	No
3. Is the long hand on clocks for minutes?	Yes	No	8. Can you subtract 69 from 18?	Yes	No
4. At 4 o'clock, is the hour hand on the number 12?	Yes	No	9. Is 14 the sum of $5 + 0 + 9$?	Yes	No
5. Does $n = 7$ in $14 - n = 7$?	Yes	No	10. Is 10 the difference between 3 and 13?	Yes	No
			11. At half past 3, is the hour hand on the number 6?	Yes	No

Reading Three-Place Numbers

Numbers like 169 and 408 are three-place numbers. It takes three figures to write them.

169 is read: "one hundred sixty-nine."

408 is read: "four hundred eight."

1. 506 is read: _____ hundred

2. 432 is read: _____

3. You can count by 100's just as you count by 1's or 10's. Finish Ex. a and b.

a. 100, 200, _____, _____, _____

b. 500, _____, _____, 800, _____

4. Count by 10's. Write the numbers.

a. 430, _____, _____, 460, _____

b. 790, _____, _____, _____, _____

5. Count by 1's. Write the numbers.

a. 107, 108, _____, _____, 111.

b. 298, _____, _____, _____, _____

c. 656, _____, _____, _____, _____

6. Write the numbers that come just before and just after

a. _____, 130, _____ c. _____, 599, _____

b. _____, 400, _____ d. _____, 250, _____

Adding Tens

1. How many cones for ice cream will you get if you buy 2 boxes, each holding 20 cones?

A

$$\begin{array}{r} 20 \\ + 20 \\ \hline ? \end{array}$$

We may write the example like this: $20 + 20 = ?$

Or we may write it as in box A.

B



C

$$\begin{array}{r} 2 \text{ tens} \\ + 2 \text{ tens} \\ \hline 4 \text{ tens} \end{array}$$

D

$$\begin{array}{r} 20 \\ + 20 \\ \hline \end{array}$$

a. Box B. How many are $20 + 20$? _____

b. Box C. How many are $20 + 20$? _____

c. Box D. Write the answer.

You add tens just as you add ones.

For Ex. 2, *think*, "2 tens and 4 tens are 6 tens, or 60." Write the sum, 60.

Work Ex. 3 to 9 in the same way.

2. $\begin{array}{r} 20 \\ + 40 \\ \hline \end{array}$	3. $\begin{array}{r} 30 \\ + 60 \\ \hline \end{array}$	4. $\begin{array}{r} 50 \\ + 30 \\ \hline \end{array}$	5. $\begin{array}{r} 10 \\ + 70 \\ \hline \end{array}$
--	--	--	--

6. $\begin{array}{r} 30 \\ + 40 \\ \hline \end{array}$	7. $\begin{array}{r} 50 \\ + 20 \\ \hline \end{array}$	8. $\begin{array}{r} 40 \\ + 50 \\ \hline \end{array}$	9. $\begin{array}{r} 20 \\ + 70 \\ \hline \end{array}$
--	--	--	--

10. In the space below, make a ϕ -picture for Ex. 6.

Adding Two 2-Place Numbers

A



$$23 + 16 = \text{-----}$$

B


$$\begin{array}{r} 2 \text{ tens and } 3 \text{ ones} \\ + 1 \text{ ten and } 6 \text{ ones} \\ \hline \end{array}$$

---- tens and ---- ones, or ----

C

$$\begin{array}{r} 23 \\ + 16 \\ \hline \end{array}$$

1. Sue has 23 little toy dogs, and Betty has 16. How many do they both have? $23 + 16 = ?$

a. Box A. Find the sum by using -numbers.

b. Box B. Finish the work. The sum is -----.

c. Box C. Add the short way. Add ones, 3 and -----
Think, "9". Write "9" in one's place in the sum.

Add tens, 2 and 1. Think, "3." Write "3" in ten's place.



2. How many are 24 and 31? Finish boxes D, E, and F.

D



$$24 + 31 = \text{-----}$$

E

$$\begin{array}{r} \text{---- tens and ---- ones} \\ + \text{---- tens and ---- one} \\ \hline \end{array}$$

---- tens and ---- ones, or ----

F

$$\begin{array}{r} 24 \\ + 31 \\ \hline \end{array}$$

Add. Check your work by adding upward.

	a	b	c	d	e	f	g	h	i	j
3.	32	37	62	44	31	16	22	55	70¢	64¢
	$+ 54$	$+ 42$	$+ 14$	$+ 35$	$+ 20$	$+ 42$	$+ 13$	$+ 32$	$+ 17¢$	$+ 34¢$

4.	26	32	54	16	20	45	71	20	63¢	57¢
	$+ 60$	$+ 27$	$+ 42$	$+ 82$	$+ 30$	$+ 14$	$+ 27$	$+ 69$	$+ 16¢$	$+ 10¢$

In adding 2-place numbers, first add ones and then add tens.

To check, add the numbers upward.

Do You Add or Do You Subtract?

Draw a ring around "A." or "S." to show if you should add or subtract.

1. Jack delivers 55 papers each day. Ned delivers 4 fewer papers. How many papers does Ned deliver?

A. S.

2. Today Jack delivered his 55 papers and sold 3 more. How many papers was that in all?

A. S.

3. Five of the 55 houses where Jack leaves papers are on his street. How many houses are on other streets?

A. S.

4. One day Jack had 72¢ when he got home. His father gave him 15¢ more. How much did that make in all?

A. S.

5. On three different streets, Ned delivers papers to 20, 4, and 5 houses. How many papers go to these houses?

A. S.

6. It takes Jack 48 minutes to deliver his papers. Ned gets through in 5 fewer minutes. How many minutes is that?

A. S.

Now work the problems on another piece of paper. Write your answers here.

1. ----- 2. ----- 3. -----

4. ----- 5. ----- 6. -----

You add to find how many in all.

You subtract to find (a) how many left; (b) how many gone; (c) the other part; (d) the difference.

Practice in Addition and Subtraction

Write sums or remainders. Watch the signs!

	a	b	c	d	e	f	g	h	i
1.	$\begin{array}{r} 59 \\ -6 \end{array}$	$\begin{array}{r} 38 \\ -5 \end{array}$	$\begin{array}{r} 30 \\ +20 \end{array}$	$\begin{array}{r} 2 \\ +65 \end{array}$	$\begin{array}{r} 67 \\ -6 \end{array}$	$\begin{array}{r} 15 \\ -5 \end{array}$	$\begin{array}{r} 14 \\ +30 \end{array}$	$\begin{array}{r} 3¢ \\ +70¢ \end{array}$	$\begin{array}{r} 17¢ \\ -7¢ \end{array}$
2.	$\begin{array}{r} 18 \\ -8 \end{array}$	$\begin{array}{r} 29 \\ -7 \end{array}$	$\begin{array}{r} 23 \\ +45 \end{array}$	$\begin{array}{r} 37 \\ -4 \end{array}$	$\begin{array}{r} 9 \\ +10 \end{array}$	$\begin{array}{r} 19 \\ -3 \end{array}$	$\begin{array}{r} 24 \\ +25 \end{array}$	$\begin{array}{r} 39¢ \\ -5¢ \end{array}$	$\begin{array}{r} 28¢ \\ -6¢ \end{array}$
3.	$\begin{array}{r} 42 \\ +36 \end{array}$	$\begin{array}{r} 15 \\ +54 \end{array}$	$\begin{array}{r} 72 \\ +15 \end{array}$	$\begin{array}{r} 13 \\ +61 \end{array}$	$\begin{array}{r} 10 \\ +79 \end{array}$	$\begin{array}{r} 43 \\ +14 \end{array}$	$\begin{array}{r} 65 \\ +32 \end{array}$	$\begin{array}{r} 12 \\ +81 \end{array}$	$\begin{array}{r} 63 \\ +23 \end{array}$
4.	$\begin{array}{r} 6 \\ 8 \\ +5 \end{array}$	$\begin{array}{r} 20 \\ 7 \\ +2 \end{array}$	$\begin{array}{r} 9 \\ 0 \\ +4 \end{array}$	$\begin{array}{r} 3 \\ 0 \\ +6 \end{array}$	$\begin{array}{r} 31 \\ 8 \\ +0 \end{array}$	$\begin{array}{r} 5 \\ 8 \\ +4 \end{array}$	$\begin{array}{r} 7 \\ 6 \\ +5 \end{array}$	$\begin{array}{r} 40¢ \\ 3¢ \\ +2¢ \end{array}$	$\begin{array}{r} 8¢ \\ 5¢ \\ +3¢ \end{array}$

Addition and Subtraction Facts for 15



1. Use the dot picture to find these:

$8 + \text{---} = 15$, and $\text{---} + 8 = 15$.

$15 - 8 = \text{---}$, and $15 - \text{---} = 8$.

2. You know $6 + 8 = 14$; so "going up 1," $6 + \text{---} = 15$. The other A. fact that goes with this is $\text{---} + 6 = 15$.

The two S. facts in the whole story are:
 ----- and -----

Parts of 15	
a. 6 and ---	
b. 7 and ---	
c. 8 and ---	
d. 9 and ---	

3. Finish the work in the box.

4. Use Ex. a and d in the box to help you write a whole story about 15.

6	9	15	15
$+$	$+$	$-$	$-$
15			

5. Write the 4 facts in the whole story about 15 that you can make from Ex. b or Ex. c.

Write the missing numbers in Ex. 6 to 13.

- | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|
| 6. $15 = 6 + \text{---}$ | 7. $15 - 7 = \text{---}$ | 8. $15 - \text{---} = 6$ | 9. $9 + \text{---} = 15$ |
| 10. $15 - \text{---} = 8$ | 11. $\text{---} + 6 = 15$ | 12. $15 = 8 + \text{---}$ | 13. $15 = 7 + \text{---}$ |

Subtracting 0 (Zero)

1. If you have 3 pet mice and give no mice away, how many are left? $3 - 0 = \text{---}$

2. If you have 8¢ and spend 0¢, you have ?¢ left. $8¢ - 0¢ = \text{---}$

Write the remainders.

3. $\begin{array}{r} 6 \\ - 0 \end{array}$	4. $\begin{array}{r} 9 \\ - 0 \end{array}$	5. $\begin{array}{r} 12 \\ - 0 \end{array}$	6. $\begin{array}{r} 15 \\ - 0 \end{array}$
--	--	---	---

In examples like Ex. 3, as soon as you see 0, write the other number as the remainder.
Any number minus 0 leaves that number.

7. If you had 3 pet mice and all 3 ran away, how many were left? $3 - 3 = \text{---}$

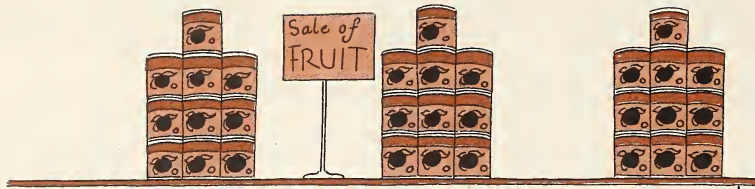
8. If you have 8¢ and then spend 8¢, you have ?¢ left. $8¢ - 8¢ = \text{---}$

Write the remainders.

9. $\begin{array}{r} 4 \\ - 4 \end{array}$	10. $\begin{array}{r} 9 \\ - 9 \end{array}$	11. $\begin{array}{r} 28 \\ - 8 \end{array}$	12. $\begin{array}{r} 42 \\ - 42 \end{array}$
--	---	--	---

In examples like Ex. 9, you take away all the number, so the answer must be 0.
Any number minus an equal number leaves 0.

Subtracting Tens



1. If Mrs. Winter buys 10 cans of fruit at the sale, how many of the 30 cans will be left?

a. Cross out 10 cans. $30 - 10 = \text{-----}$

b. Box A. Change the -picture.

c. Boxes B and C. Write answers.

You subtract tens just as you subtract ones.

2. Box D. Make a ϕ -picture to find the answer for $50 - 30$. Write the answer.

3. Box E. Use "tens" to find the answer for $40 - 20$, as in box B.

Write the remainders for Ex. 4 to 10.

- | | | | | | | |
|--------------------------------|--------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 4. 9 tens | 5. 7 tens | 6. 8 0 | 7. 6 0 | 8. 7 0 | 9. 9 0 | 10. 5 0 |
| $\underline{- 5 \text{ tens}}$ | $\underline{- 4 \text{ tens}}$ | $\underline{- 6 0}$ | $\underline{- 5 0}$ | $\underline{- 3 0}$ | $\underline{- 4 0}$ | $\underline{- 2 0}$ |

A $30 - 10 = \text{----}$	B 3 tens $\underline{- 1 \text{ ten}}$ tens	C 3 0 $\underline{- 1 0}$
---	---	--

D $50 - 30 = \text{-----}$	E $40 - 20 = \text{-----}$
--	--

Subtracting Two 2-Place Numbers

1. Mother had 26 small candles. She put 12 on Bob's cake. How many were left?



a. Cross out 12 candles, the ones used. Count the others.

$$26 - 12 = \text{-----}$$

b. Box A. Use the -picture.

$$26 - 12 = \text{-----}$$

c. Box B. Use tens and ones.

A
B 2 tens and 6 ones $\underline{- 1 \text{ ten and 2 ones}}$ --- ten and --- ones or -----

d. Subtract the short way in box C. First subtract the ones, then the tens.

Subtract ones, $6 - 2$. *Think,*

"4." Write "4" in -----

place.

C
2 6 $\underline{- 1 2}$

Subtract tens, $2 - 1$. *Think,* "1." Write

"1" in ----- place.

In subtracting 2-place numbers, first subtract ones, then subtract tens.

2. $39 - 15 = ?$

- a. Use a ϕ -picture in box D.
b. Work the short way in box E.

D $39 - 15 = \dots$	E $\begin{array}{r} 39 \\ - 15 \\ \hline \end{array}$
---	---

3. How much larger is 58 than 33?

- a. Use tens and ones in box F.

F

- b. Find the answer the short way in box G.

G $\begin{array}{r} 58 \\ - 33 \\ \hline \end{array}$

Write the remainders for rows 4 to 6.

	a	b	c	d	e
4.	$\begin{array}{r} 29 \\ - 18 \\ \hline \end{array}$	$\begin{array}{r} 36 \\ - 30 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ - 32 \\ \hline \end{array}$	$\begin{array}{r} 87 \\ - 67 \\ \hline \end{array}$	$\begin{array}{r} 63 \text{ ¢} \\ - 52 \text{ ¢} \\ \hline \end{array}$
5.	$\begin{array}{r} 44 \\ - 20 \\ \hline \end{array}$	$\begin{array}{r} 22 \\ - 12 \\ \hline \end{array}$	$\begin{array}{r} 69 \\ - 17 \\ \hline \end{array}$	$\begin{array}{r} 77 \\ - 56 \\ \hline \end{array}$	$\begin{array}{r} 38 \text{ ¢} \\ - 2 \text{ ¢} \\ \hline \end{array}$
6.	$\begin{array}{r} 65 \\ - 32 \\ \hline \end{array}$	$\begin{array}{r} 88 \\ - 53 \\ \hline \end{array}$	$\begin{array}{r} 56 \\ - 6 \\ \hline \end{array}$	$\begin{array}{r} 99 \\ - 65 \\ \hline \end{array}$	$\begin{array}{r} 43 \text{ ¢} \\ - 30 \text{ ¢} \\ \hline \end{array}$

Checking in Subtraction

You can check answers in subtraction.

A $\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$ <div style="display: inline-block; vertical-align: middle; margin-left: 10px;"> \uparrow Add to check </div>	B $\begin{array}{r} 54 \\ - 31 \\ \hline 23 \end{array}$ <div style="display: inline-block; vertical-align: middle; margin-left: 10px;"> \uparrow Add to check </div>
--	--

1. Box A. 7 and 5 are parts of 12. Add the parts upward. $5 + 7 = 12$. Is 12 the number you subtracted from?

2. Box B. The parts of 54 are 31 and 23. To check, add the parts upward. Do you get 54?

To check subtraction, add the answer and the number taken away. That sum always should equal the number subtracted from.

Subtract. Check your work.

	a	b	c	d	e
3.	$\begin{array}{r} 47 \\ - 27 \\ \hline \end{array}$	$\begin{array}{r} 96 \\ - 52 \\ \hline \end{array}$	$\begin{array}{r} 59 \\ - 36 \\ \hline \end{array}$	$\begin{array}{r} 58 \\ - 41 \\ \hline \end{array}$	$\begin{array}{r} 99 \text{ ¢} \\ - 88 \text{ ¢} \\ \hline \end{array}$
4.	$\begin{array}{r} 70 \\ - 30 \\ \hline \end{array}$	$\begin{array}{r} 47 \\ - 24 \\ \hline \end{array}$	$\begin{array}{r} 93 \\ - 3 \\ \hline \end{array}$	$\begin{array}{r} 86 \\ - 50 \\ \hline \end{array}$	$\begin{array}{r} 89 \text{ ¢} \\ - 72 \text{ ¢} \\ \hline \end{array}$
5.	$\begin{array}{r} 48 \\ - 32 \\ \hline \end{array}$	$\begin{array}{r} 58 \\ - 25 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ - 54 \\ \hline \end{array}$	$\begin{array}{r} 96 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 59 \text{ ¢} \\ - 39 \text{ ¢} \\ \hline \end{array}$
6.	$\begin{array}{r} 35 \\ - 13 \\ \hline \end{array}$	$\begin{array}{r} 83 \\ - 60 \\ \hline \end{array}$	$\begin{array}{r} 57 \\ - 23 \\ \hline \end{array}$	$\begin{array}{r} 75 \\ - 52 \\ \hline \end{array}$	$\begin{array}{r} 64 \text{ ¢} \\ - 43 \text{ ¢} \\ \hline \end{array}$
7.	$\begin{array}{r} 78 \\ - 17 \\ \hline \end{array}$	$\begin{array}{r} 52 \\ - 22 \\ \hline \end{array}$	$\begin{array}{r} 85 \\ - 53 \\ \hline \end{array}$	$\begin{array}{r} 60 \\ - 20 \\ \hline \end{array}$	$\begin{array}{r} 97 \text{ ¢} \\ - 41 \text{ ¢} \\ \hline \end{array}$

Addition and Subtraction Facts for 16, 17, and 18

1. Find the answers by making a ten.

$$\begin{array}{r} 9 + 7 = \text{----} \quad 8 + 8 = \text{----} \quad 7 \quad 9 \\ \phantom{9 + 7 = \text{----}} \phantom{8 + 8 = \text{----}} \\ \phantom{9 + 7 = \text{----}} \phantom{8 + 8 = \text{----}} \end{array}$$

$$8 + 9 = \text{----} \quad 9 + 9 = \text{----}$$

2. Use your answers for Ex. 1 to help you finish the tables below. If you need more help, make dot pictures at the side of this page.

Parts of 16

Parts of 17

Parts of 18

7 and ---- 8 and ---- 9 and ----

8 and ---- 9 and ----

9 and ----

3. Is there another A. fact that goes with $8 + 8 = 16$? ----

4. Write the whole story for 8, 8, and 16.

5. Write the whole story for 7, 9, and 16.

6. Write the whole story for 8, 9, and 17.

7. There are ---- facts in the whole story for 9, 9, and 18. Write them.

Practice in Addition and Subtraction

Write the answers. Check your work.

	a	b	c	d	e	f	g	h	i	j
1.	$\begin{array}{r} 56 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 63 \\ -21 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ +10 \\ \hline \end{array}$	$\begin{array}{r} 70 \\ -10 \\ \hline \end{array}$	$\begin{array}{r} 27 \\ +60 \\ \hline \end{array}$	$\begin{array}{r} 59 \\ -29 \\ \hline \end{array}$	$\begin{array}{r} 46 \\ -13 \\ \hline \end{array}$	$\begin{array}{r} 35 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ -27 \\ \hline \end{array}$	$\begin{array}{r} 84 \\ -30 \\ \hline \end{array}$

2.	$\begin{array}{r} 47 \\ +30 \\ \hline \end{array}$	$\begin{array}{r} 25 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ +70 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 20 \\ +48 \\ \hline \end{array}$	$\begin{array}{r} 31 \\ +48 \\ \hline \end{array}$	$\begin{array}{r} 62 \\ +27 \\ \hline \end{array}$	$\begin{array}{r} 82 \\ -50 \\ \hline \end{array}$	$\begin{array}{r} 55 \\ -35 \\ \hline \end{array}$	$\begin{array}{r} 40 \\ -30 \\ \hline \end{array}$
----	--	---	--	---	--	--	--	--	--	--

3.	$\begin{array}{r} 34 \\ +52 \\ \hline \end{array}$	$\begin{array}{r} 46 \\ +31 \\ \hline \end{array}$	$\begin{array}{r} 57 \\ -24 \\ \hline \end{array}$	$\begin{array}{r} 42 \\ -32 \\ \hline \end{array}$	$\begin{array}{r} 64 \\ +15 \\ \hline \end{array}$	$\begin{array}{r} 98 \\ -43 \\ \hline \end{array}$	$\begin{array}{r} 71 \\ +27 \\ \hline \end{array}$	$\begin{array}{r} 69 \\ -45 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ +54 \\ \hline \end{array}$	$\begin{array}{r} 37 \\ +32 \\ \hline \end{array}$
----	--	--	--	--	--	--	--	--	--	--

4. $20 + 5 + 3 = \text{-----}$

5. $6 + 0 + 9 = \text{-----}$

6. $3 + 6 + 8 = \text{-----}$

Reading and Writing Money Numbers

Quarter

Half Dollar

Dollar



1. Draw lines between things that mean the same.

cent	ten cents	5¢
nickel	one cent	10¢
dime	twenty-five cents	1¢
quarter	five cents	50¢
half dollar	one hundred cents	25¢
dollar	fifty cents	100¢

One dollar, or 100¢, is written "\$1.00." The "\$" is the dollar sign, and the dot after the 1 is the cent point.

one dollar and thirty cents = \$1.30

sixty-four cents = \$0.64

eight cents = \$0.08

2. Write these money numbers in figures:

three dollars and fourteen cents -----

eighty-seven cents -----

nine dollars -----

three dollars and five cents -----

seven dollars and twenty cents -----

Adding Four Numbers

1. Box A. To add, look at 5 and 1 and think, "6." Remembering 6, look at 3 and think, "9." Remembering 9, look at 8 and think, "17." Write the sum in box A.

A	B	C
5	4	21
1	4	3
3	3	1
<u>+ 8</u>	<u>+ 4</u>	<u>+ 4</u>

2. Box B. Think, "8, -----, -----." Write the sum in the box.

3. Box C. Think, "24" (for 21 + ----);

"25" (for 24 + ----); "29" (for ---- + 4).

Add. To check, add upward.

a	b	c	d	e
4. 2	3	4	6¢	3¢
4	0	3	0¢	1¢
3	5	4	3¢	3¢
<u>+ 7</u>	<u>+ 7</u>	<u>+ 5</u>	<u>+ 7¢</u>	<u>+ 9¢</u>

5. 31	8	5	32¢	7¢
2	0	2	5¢	4¢
1	1	8	0¢	3¢
<u>+ 5</u>	<u>+ 3</u>	<u>+ 3</u>	<u>+ 2¢</u>	<u>+ 5¢</u>

6. 9	40	53	11¢	4¢
0	3	2	0¢	8¢
6	2	2	5¢	2¢
<u>+ 0</u>	<u>+ 3</u>	<u>+ 1</u>	<u>+ 2¢</u>	<u>+ 3¢</u>

Do You Know?

Part 1

Add or subtract. Watch the signs!

	a	b	c	d	e	f	g
1.	8	7	6	9	9	5	9
	<u>+ 8</u>	<u>+ 9</u>	<u>+ 8</u>	<u>+ 9</u>	<u>+ 5</u>	<u>+ 8</u>	<u>+ 6</u>

5. $7 + 2 + 8 =$ -----

2.	15	14	14	13	13	16	15
	<u>- 9</u>	<u>- 5</u>	<u>- 8</u>	<u>- 4</u>	<u>- 6</u>	<u>- 9</u>	<u>- 7</u>

6. $34 + 0 + 5 =$ -----

3.	7	18	17	6	13	8	6
	<u>+ 8</u>	<u>- 9</u>	<u>- 8</u>	<u>+ 7</u>	<u>- 8</u>	<u>+ 9</u>	<u>+ 9 0</u>

8. $8 + 0 + 9 =$ -----

4.	88	47	80	70	99	35	58
	<u>- 28</u>	<u>- 14</u>	<u>- 50</u>	<u>+ 28</u>	<u>- 60</u>	<u>+ 43</u>	<u>- 17</u>

9. $40 + 5 + 3 =$ -----

10. $62 + 4 + 3 =$ -----

Part 2

Write the missing words or numbers.

- Write a 3-place number. -----
- To find how much larger 18 is than 2, you -----.
- $76 - 4$ is in the ----- family.
- Any number minus an equal number leaves -----.
- Write in figures:
 - seven hundred sixty-two. -----
 - two dollars and sixty cents. -----
 - nine hundred nine. -----

Part 3

Write the answers on the lines.

- A 60¢ drum costs -----¢ less than a 75¢ drum.
- Sally made scores of 4, 3, 0, and 8 in a game. Her total score was -----.
- Mary has 32¢. She needs -----¢ more to buy a 65¢ picture book.
- A toy engine at 36¢ and a toy truck at 30¢ will cost -----¢ in all.
- One day 3 of the 36 children in our room were not at school. The rest, or -----, were there that day.

Weighing in Ounces and Pounds

4

We weigh things that are not very heavy in ounces (oz.). We weigh heavier things in pounds (lb.). It takes 16 ounces to make one pound.

1. Look at the things in the picture. Put a check mark (✓) in front of the names of the things that are weighed in ounces.

---- potatoes ---- butter ---- tea
---- candy bar ---- pepper ---- sugar

2. Put a check mark (✓) in front of the names of the things we would weigh in pounds.

---- garden seeds ---- a man ---- a cat
---- a turkey ---- a letter ---- a canary

3. Look at picture A. Does the desk weigh 62 pounds or 62 ounces? Write "lb." or "oz." on the line after "62" to show which it means. Do the same for pictures B, C, and D.

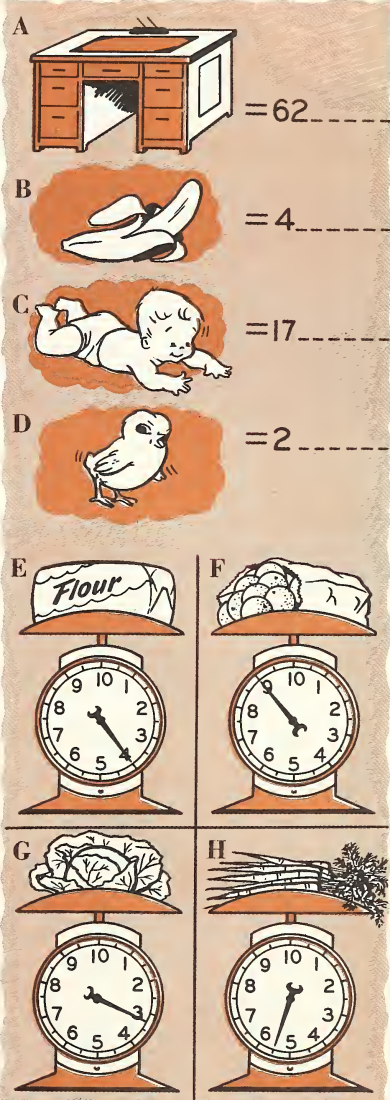
4. We know that the bag of flour on scales E weighs just 4 pounds, because the hand points to -----.

5. How many pounds of oranges are on scales F?
----- pounds.

6. Does the cabbage on scales G weigh more or less than 3 pounds? -----

7. The carrots that are on scales H weigh more than ----- pounds but less than ----- pounds.

16 ounces (oz.) = 1 pound (lb.)
1 lb. = 16 oz.



Carrying in Addition



In the picture, if Tom puts his 8 paper cups with the 17 cups on the table, how many will there be in all? $17 + 8 = ?$

1. Box A shows how Tom changed the groups so he could count by 10's and 1's. Count the cups this way.

There are cups in all.

2. Box B shows another way to find the sum. We add first ones, then tens.

7 ones + 8 ones = ones. Is there anything to add to the 1 ten?

We know that 15 ones = 1 ten and ones.

So we change the groups from 1 ten and ones to tens and ones. We carry 1 ten.

3. Box C shows the short way to work the example, with figures. We carry a ten and put it with the 1 in column.

4. $7 + 37 = ?$ Finish the work in box D.

You carry when the sum of the ones is 10 or more.

5. Work these examples the short way.

a	b	c	d	e	f	g	h	i
45	53	6	8	67	3	36	28	9
<u>+ 9</u>	<u>+ 8</u>	<u>+ 77</u>	<u>+ 25</u>	<u>+ 4</u>	<u>+ 19</u>	<u>+ 5</u>	<u>+ 7</u>	<u>+ 84</u>

More Addition Families

A	19	29	39	49
	$\begin{array}{r} 19 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 29 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 39 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 49 \\ +7 \\ \hline \end{array}$

1. Row A. In each example the figures in one's place are 9 and 7. These examples are parts of the $9 + \dots$ addition family.

2. Write 3 more examples in the same family. Use the boxes below.

--	--	--

B	6	36	66	6
	$\begin{array}{r} 6 \\ +18 \\ \hline \end{array}$	$\begin{array}{r} 36 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 66 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ +78 \\ \hline \end{array}$

3. Row B. These examples are parts of the family.

4. Write 3 more examples in that family.

--	--	--

5. Beside each of these examples write the name of its family.

a. $29 + 6$

b. $7 + 34$

c. $52 + 8$

d. $3 + 28$

6. The sum of the ones in box C is

....., or 1 ten and 7 ones.

So the ten's figure in the

sum will be 1 more, or

C

$$\begin{array}{r} 28 \\ +9 \\ \hline \end{array}$$

Write the sum in box C.

D

$$\begin{array}{r} 88 \\ +9 \\ \hline \end{array}$$

7. Box D. *Think* "17" (for the ones, $8 + 9$), then "97" (the whole sum).

Write the sum in box D.

Cross out wrong sums in rows 8 and 9.

	a	b	c	d	e
8.	$\begin{array}{r} 52 \\ +9 \\ \hline 51 \end{array}$	$\begin{array}{r} 37 \\ +8 \\ \hline 45 \end{array}$	$\begin{array}{r} 9 \\ +58 \\ \hline 77 \end{array}$	$\begin{array}{r} 5 \\ +26 \\ \hline 31 \end{array}$	$\begin{array}{r} 29 \\ +5 \\ \hline 44 \end{array}$

9.	$\begin{array}{r} 6 \\ +47 \\ \hline 43 \end{array}$	$\begin{array}{r} 57 \\ +8 \\ \hline 55 \end{array}$	$\begin{array}{r} 61 \\ +9 \\ \hline 70 \end{array}$	$\begin{array}{r} 6 \\ +28 \\ \hline 34 \end{array}$	$\begin{array}{r} 59 \\ +6 \\ \hline 65 \end{array}$
----	--	--	--	--	--

For Ex. 10a, *think*, "13, 63." Use this short way to write sums for rows 10 to 13.

10.	$\begin{array}{r} 58 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 38 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 66 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 88 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +69 \\ \hline \end{array}$
-----	---	---	---	---	---

11.	$\begin{array}{r} 7 \\ +24 \\ \hline \end{array}$	$\begin{array}{r} 42 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 23 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 35 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +37 \\ \hline \end{array}$
-----	---	---	---	---	---

12.	$\begin{array}{r} 4 \\ +39 \\ \hline \end{array}$	$\begin{array}{r} 58 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 24 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +79 \\ \hline \end{array}$	$\begin{array}{r} 37 \\ +4 \\ \hline \end{array}$
-----	---	---	---	---	---

13.	$\begin{array}{r} 72 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 53 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +19 \\ \hline \end{array}$	$\begin{array}{r} 65 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 48 \\ +5 \\ \hline \end{array}$
-----	---	---	---	---	---

Adding More Quickly

1. Ex. A is part of the ----- family.

2. The sum of the one's figures is -----, so the ten's figure in the sum will be 1 more, or -----.

There is a quick way to add. Just look at 26 and 5 and *think*, "31."

3. Ex. B. First add the old way: -----, ----- Then add the quick way. *Think* just "-----." Write the sum in the box.

A
26
<u>+ 5</u>
31

B
8
<u>+ 34</u>

Add in rows 4 to 7. Be careful! You do not always have to carry.

	a	b	c	d	e
4.	68	87	49	5	9¢
	<u>+ 4</u>	<u>+ 2</u>	<u>+ 4</u>	<u>+ 14</u>	<u>+ 13¢</u>

5.	38	54	3	5	78¢
	<u>+ 7</u>	<u>+ 6</u>	<u>+ 55</u>	<u>+ 39</u>	<u>+ 2¢</u>

6.	7	21	25	7	6¢
	<u>+ 53</u>	<u>+ 8</u>	<u>+ 8</u>	<u>+ 69</u>	<u>+ 33¢</u>

7.	8	64	7	50	18¢
	<u>+ 40</u>	<u>+ 7</u>	<u>+ 16</u>	<u>+ 8</u>	<u>+ 6¢</u>

In all examples in an addition family, the one's figures in the sums are the same.

When the sum of the ones is more than 9, the ten's figure in the sum is 1 more.

Add or Subtract. Watch the Signs!

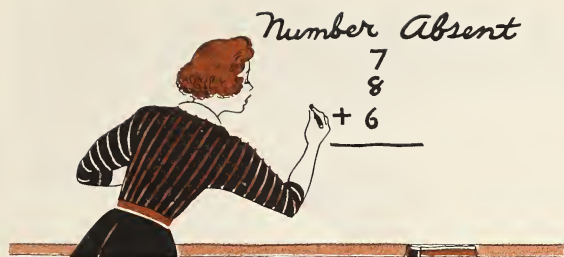
	a	b	c	d	e	f	g	h	i	j
1.	68	17	6	90	50	39	96	18	73¢	16¢
	<u>- 38</u>	<u>- 9</u>	<u>+ 72</u>	<u>- 60</u>	<u>+ 47</u>	<u>+ 6</u>	<u>- 42</u>	<u>+ 5</u>	<u>- 50¢</u>	<u>- 9¢</u>

2.	7	55	88	35	15	88	50	89	23¢	85¢
	<u>+ 32</u>	<u>- 45</u>	<u>- 36</u>	<u>+ 64</u>	<u>- 8</u>	<u>- 7</u>	<u>+ 9</u>	<u>- 83</u>	<u>+ 53¢</u>	<u>- 70¢</u>

3.	17	40	15	80	62	97	16	20	69¢	8¢
	<u>- 8</u>	<u>+ 39</u>	<u>- 7</u>	<u>- 20</u>	<u>+ 8</u>	<u>- 65</u>	<u>- 7</u>	<u>+ 30</u>	<u>- 8¢</u>	<u>+ 60¢</u>

4.	18	32	43	9	77	24	34	14	73¢	59¢
	<u>- 9</u>	<u>+ 57</u>	<u>+ 6</u>	<u>+ 24</u>	<u>- 34</u>	<u>+ 75</u>	<u>+ 7</u>	<u>- 8</u>	<u>+ 9¢</u>	<u>- 5¢</u>

Adding and Checking



1. In the first three weeks of school, these numbers of children were absent: 7, 8, and 6. How many were absent in all?

In the picture, look at 7 and 8. *Think*, "15." Look at 6. *Think*, "21." Write the sum under the example.

2. In the four school weeks in May, there were 5, 9, 6, and 4 children absent. How many children were absent for the month?

Add downward in the box. *Think*, "14, 20, 24." Write the sum in the box.

5
9
6
<u>+ 4</u>

3. To check, add upward. *Think*, "10, 19,"

Is the sum the same both times?

Add in rows 4-6. Check your work.

	a	b	c	d	e	f	g	h	i	j
4.	8	9	9	5	9	7	8	8	9 ¢	5 ¢
	9	3	7	0	8	6	8	5	9 ¢	3 ¢
	<u>+ 5</u>	<u>+ 8</u>	<u>+ 5</u>	<u>+ 7</u>	<u>+ 4</u>	<u>+ 9</u>	<u>+ 8</u>	<u>+ 7</u>	<u>+ 3 ¢</u>	<u>+ 6 ¢</u>

5.	7	6	5	6	6	4	5	6	2 ¢	3 ¢
	9	3	9	3	7	2	2	9	5 ¢	5 ¢
	0	5	6	6	5	8	8	0	7 ¢	7 ¢
	<u>+ 7</u>	<u>+ 9</u>	<u>+ 8</u>	<u>+ 8</u>	<u>+ 4</u>	<u>+ 4</u>	<u>+ 6</u>	<u>+ 5</u>	<u>+ 6 ¢</u>	<u>+ 2 ¢</u>

6.	2	4	6	4	9	5	6	7	5 ¢	7 ¢
	9	7	6	8	3	8	9	5	8 ¢	8 ¢
	9	9	8	9	7	9	8	6	7 ¢	4 ¢
	<u>+ 8</u>	<u>+ 3</u>	<u>+ 5</u>	<u>+ 4</u>	<u>+ 2</u>	<u>+ 3</u>	<u>+ 4</u>	<u>+ 6</u>	<u>+ 6 ¢</u>	<u>+ 4 ¢</u>

Practice in Subtraction

- | | | | |
|------------------|------------------|------------------|-------------------|
| 1. 14 - 6 = | 4. 13 - 5 = | 7. 14 - 8 = | 10. 13 - 4 = |
| 2. 15 - 9 = | 5. 17 - 8 = | 8. 16 - 8 = | 11. 15 - 8 = |
| 3. 13 - 6 = | 6. 16 - 9 = | 9. 17 - 9 = | 12. 13 - 8 = |

Names for Parts of Things — Fractions

The melon is cut into 2 parts of the same size, or 2 equal parts. Each part of the melon is one half ($\frac{1}{2}$).

1. Is the orange cut into 2 parts? Are the parts equal? Are the parts halves?

2. Which flag has one half colored?

If a thing is divided into four equal parts, like this apple, each part is one fourth ($\frac{1}{4}$).

3. Is this pie cut into 4 parts? Are the parts equal? Then is each part $\frac{1}{4}$?

4. Square C is divided into equal parts. Each part is one third ($\frac{1}{3}$).

5. Does square D show thirds?

6. Does square E show thirds?

7. What kind of parts does square F show?

8. Which of pictures G to N show halves?

9. Which of pictures G to N show thirds?

10. Which of pictures G to N show fourths?

11. Divide circle O into halves. Write " $\frac{1}{2}$ " on each half.

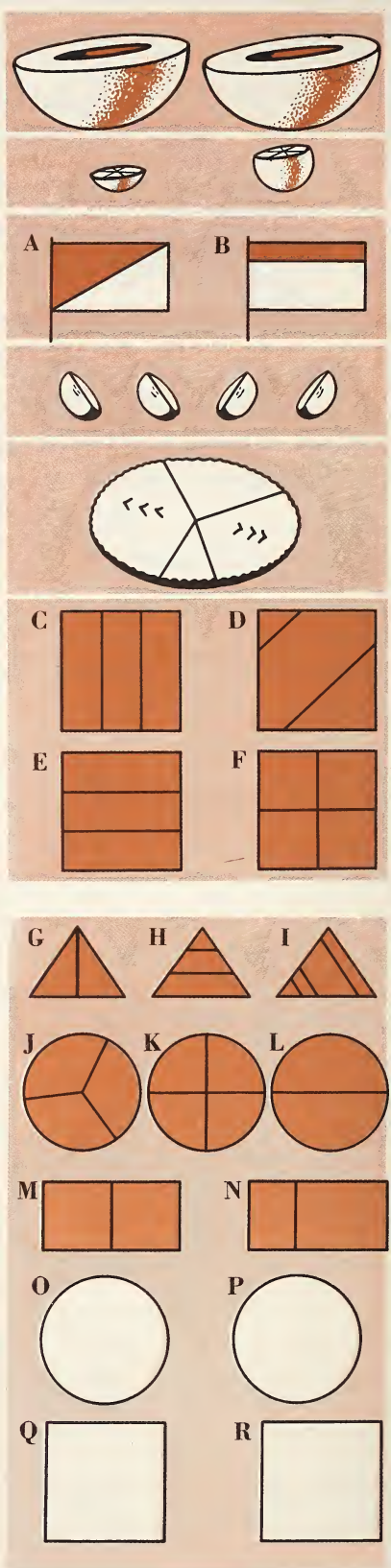
12. Divide circle P into thirds. Write " $\frac{1}{3}$ " on each third.

13. Divide square Q into fourths. Divide square R into fourths another way. Write " $\frac{1}{4}$ " on each fourth.

14. To get a half of something you must divide it into parts, and the parts must be in size.

Numbers like 2, 3, and 4 are whole numbers.

Numbers like $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{4}$ are fractions.



Adding Two 2-Place Numbers with Carrying



A



There are 23 bells in one row and 19 bells in the other. In all, there are how many bells? $23 + 19 = ?$

1. Count the bells. How many? Counting is not the best way to find the sum of 23 and 19.

2. You can add 23 and 19 by using -pictures. Use box A. Write the sum on the line in the box.

3. Box B. You can use tens and ones. The sum is

4. Box C. The quick way is to add the figures, first the ones, then the tens.

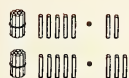
Ones: Look at 3 and 9. *Think*, “.....” Write “2” in one’s place in the sum. Carry 1 (ten).

Tens: Add the 1 (the carried ten) and 2 and 1. *Think*, “4.” Write “4” in ten’s place in the sum.

C

$$\begin{array}{r} 1 \\ 23 \\ + 19 \\ \hline \end{array}$$

D



$$17 + 18 = \dots\dots\dots$$

E

$$\begin{array}{r} 17 \\ + 18 \\ \hline \end{array}$$

F

$$\begin{array}{r} 2 \text{ tens and } 5 \text{ ones} \\ + 3 \text{ tens and } 6 \text{ ones} \\ \hline \end{array}$$

G

$$\begin{array}{r} 25 \\ + 36 \\ \hline \end{array}$$

5. 17 bells + 18 bells are how many bells? Finish box D. Then find the answer the short way in box E.

6. 25 bells + 36 bells are how many? Use tens and ones (box F). Then work the short way (box G).

Add the short way. Try to do the carrying “in your head.”

a	b	c	d	e	f	g	h	i	j
7. 18	32	29	47	27	39	27	15	49¢	48¢
+ 28	+ 49	+ 16	+ 25	+ 48	+ 51	+ 34	+ 39	+ 27¢	+ 33¢
8. 27	55	17	79	52	36	74	38	19¢	56¢
+ 23	+ 16	+ 67	+ 18	+ 18	+ 48	+ 19	+ 27	+ 79¢	+ 17¢

Practice in Addition

Add. Check your work.

a	b	c	d
1. 56	19	65	\$ 0.16
+ 27	+ 44	+ 17	+ 0.69

2. 75	6	45	\$ 0.37
+ 6	+ 28	+ 48	+ 0.18

3. 3	47	39	\$ 0.14
+ 29	+ 24	+ 8	+ 0.36

4. 18	29	18	\$ 0.21
+ 69	+ 12	+ 42	+ 0.29

Add. Watch the carrying!

a	b	c	d
5. 40	38	32	\$ 0.15
+ 7	+ 3	+ 67	+ 0.26

6. 7	5	35	\$ 0.48
+ 36	+ 44	+ 7	+ 0.47

7. 3	46	55	\$ 0.24
+ 44	+ 24	+ 18	+ 0.65

8. 51	29	46	\$ 0.06
+ 38	+ 57	+ 30	+ 0.57

n for the Missing Part of a Number

$17 = 8 + 9$. In the example $17 = 8 + n$, n must stand for 9. You are told that one part of 17 is 8. To find n , the missing part, subtract 8 from 17.

A

$$\begin{array}{r} 67 \\ - 35 \\ \hline 32 \end{array}$$

$67 = n + 35$. The parts of 67 are n and 35. To find n , the missing part, subtract as in box A.

$67 = 32 + 35$, so n must equal 32.

Find n as above. Do your work on another piece of paper. Write the numbers for n in box B.

1. $78 = n + 36$

6. $37 = 23 + n$

2. $65 = 40 + n$

7. $99 = 19 + n$

3. $89 = 53 + n$

8. $66 = 30 + n$

4. $48 = n + 40$

9. $75 = n + 12$

5. $54 = 4 + n$

10. $84 = 42 + n$

11. $39 = n + 17$

14. $59 = 45 + n$

12. $98 = n + 92$

15. $94 = 63 + n$

13. $27 = n + 5$

16. $77 = n + 20$

B

1. ----- 6. ----- 12. -----

2. ----- 7. ----- 13. -----

3. ----- 8. ----- 14. -----

4. ----- 9. ----- 15. -----

5. ----- 10. ----- 16. -----

11. -----

Time for Practice!

Add or subtract as the signs tell you.

	a	b	c	d	e	f	g	h	i	j
1.	89 <u>- 37</u>	25 <u>+ 46</u>	70 <u>- 30</u>	58 <u>- 36</u>	89 <u>+ 8</u>	77 <u>- 53</u>	69 <u>- 7</u>	35 <u>+ 49</u>	86¢ <u>- 4¢</u>	\$0.09 <u>+ 0.84</u>
2.	52 <u>+ 29</u>	85 <u>- 42</u>	36 <u>+ 43</u>	98 <u>- 8</u>	8 <u>+ 46</u>	57 <u>- 37</u>	81 <u>- 50</u>	40 <u>+ 46</u>	17¢ <u>- 9¢</u>	\$0.26 <u>+ 0.57</u>
3.	66 <u>+ 5</u>	97 <u>- 54</u>	38 <u>+ 7</u>	99 <u>- 39</u>	86 <u>- 26</u>	14 <u>- 7</u>	67 <u>+ 26</u>	79 <u>- 12</u>	72¢ <u>+ 8¢</u>	\$0.48 <u>- 0.47</u>
4.	17 <u>- 8</u>	79 <u>+ 19</u>	18 <u>+ 13</u>	14 <u>- 6</u>	59 <u>+ 11</u>	67 <u>- 40</u>	78 <u>+ 12</u>	18 <u>- 9</u>	19¢ <u>+ 44¢</u>	\$0.15 <u>- 0.06</u>
5.	36 <u>- 21</u>	38 <u>+ 14</u>	16 <u>- 9</u>	32 <u>+ 67</u>	59 <u>- 58</u>	86 <u>+ 7</u>	14 <u>- 8</u>	43 <u>+ 51</u>	11¢ <u>- 9¢</u>	\$0.67 <u>+ 0.19</u>
6.	13 <u>- 7</u>	79 <u>- 61</u>	24 <u>+ 28</u>	26 <u>+ 65</u>	15 <u>- 8</u>	66 <u>- 53</u>	37 <u>+ 50</u>	12 <u>- 7</u>	74¢ <u>- 23¢</u>	\$0.15 <u>- 0.07</u>

Adding Columns

Find the totals. Check by adding upward.


	a	b	c	d	e	f	g	h	i	j
1.	4 9 7 <u>+ 3</u>	20 4 2 <u>+ 3</u>	3 9 8 <u>+ 6</u>	5 0 9 <u>+ 9</u>	6 4 8 <u>+ 7</u>	8 0 9 <u>+ 7</u>	5 4 7 <u>+ 6</u>	9 6 5 <u>+ 7</u>	6¢ 0¢ 6¢ <u>+ 2¢</u>	\$0.09 0.05 0.07 <u>+ 0.09</u>
2.	7 8 7 <u>+ 5</u>	9 9 8 <u>+ 3</u>	7 7 3 <u>+ 4</u>	3 8 9 <u>+ 2</u>	8 5 6 <u>+ 2</u>	5 2 3 <u>+ 9</u>	5 1 4 <u>+ 5</u>	4 5 0 <u>+ 4</u>	2¢ 8¢ 1¢ <u>+ 9¢</u>	\$0.03 0.07 0.04 <u>+ 0.06</u>

Subtraction with Borrowing





If Ruth buys 8 lollipops, how many will be left? $35 - 8 = ?$

1. Will the candy man have to change a 10-bundle to get 8 lollipops?

2. Box A shows a -picture for 35.

a. Can you take away 8 ones?

A 	B 
---	---

b. In box B, a 10-bundle has been changed to ones.

Now can you subtract 8 ones?

Cross out 8 ones. $35 - 8 = \dots$

3. Boxes C and D show tens and ones.

a. Can you subtract 8 ones in C?

C 3 tens and 5 ones $\begin{array}{r} \underline{\hspace{2cm}} \\ 8 \text{ ones} \end{array}$	D 2 tens and 15 ones $\begin{array}{r} \underline{\hspace{2cm}} \\ 8 \text{ ones} \end{array}$... tens and ... ones, or ...
--	--

b. Box D. 3 tens and 5 ones have been changed to 2 tens and 15 ones. Now can you subtract? Finish box D.

4. Box E shows a quick way to subtract with figures. The 35 has been changed to 2 tens and 15 ones. We call this "borrowing a ten."

$\begin{array}{r} \text{E} \quad \begin{array}{cc} 2 & 15 \\ \cancel{3} & \cancel{5} \\ - 8 \\ \hline 2 & 7 \end{array} \end{array}$
--

5. What is the difference between 53 and 5? Look at boxes F and G.

F 5 tens and 3 ones $\begin{array}{r} \underline{\hspace{2cm}} \\ 5 \text{ ones} \end{array}$	G 4 tens and 13 ones $\begin{array}{r} \underline{\hspace{2cm}} \\ 5 \text{ ones} \end{array}$ or
--	--

a. Box F. Can you subtract 5 ones from 3 ones?

b. Box G. Are 4 tens and 13 ones the same as 5 tens and 3 ones?

Did we borrow a ten?

Now can you subtract 5 ones? Finish box G.

$\begin{array}{r} \text{H} \quad \begin{array}{cc} 4 & 13 \\ \cancel{5} & \cancel{5} \\ - 5 \\ \hline \end{array} \end{array}$
--

c. Subtract the quick way in box H.

When you cannot subtract the ones in an example, you borrow a ten.

6. Must you borrow a ten in

a. $83 - 7?$ b. $29 - 5?$

More about Borrowing in Subtraction

1. Box A. Can you subtract the ones?

----- Must you borrow a ten? -----

2. Box A. When you borrow a ten, the ten's figure in the remainder is 1 less than it was in the top number.

A
51
<u> 9 </u>
42

It is not 5, but -----

3. Box B. (Ones) Can you subtract? ----- Must you

B
60
<u> 8 </u>
52

borrow a ten? ----- Is the ten's figure in the answer 1 less? -----

Draw a ring around the examples in which you must borrow a ten.

a	b	c	d	e
4. 57	63	78	45	39
<u> 8 </u>	<u> 5 </u>	<u> 6 </u>	<u> 7 </u>	<u> 6 </u>

In rows 5 and 6, cross out the wrong ten's figures in the remainders.

5. 31	40	38	56	83
<u> 5 </u>	<u> 9 </u>	<u> 9 </u>	<u> 5 </u>	<u> 7 </u>
36	31	29	51	86

6. 74	27	53	89	92
<u> 7 </u>	<u> 5 </u>	<u> 7 </u>	<u> 7 </u>	<u> 5 </u>
67	12	46	82	97

New Subtraction Families

A 21	41	91	31	61
<u> 6 </u>	<u> 6 </u>	<u> 6 </u>	<u> 6 </u>	<u> 6 </u>
15	35			

1. Row A. These examples are in the 11 - 6 subtraction family. Write another example in this family.

2. In the first two examples in row A, are the ten's figures in the remainders down 1?

3. Row A. Write the other remainders.

For all examples in a subtraction family, the one's figures in the remainders are the same.

If you cannot subtract the ones, the ten's figure in the remainder is down 1.

B 83	93	53	23	43
<u> 4 </u>	<u> 4 </u>	<u> 4 </u>	<u> 4 </u>	<u> 4 </u>
79	89			

4. Row B. These examples are in the ----- family.

5. Write 2 more examples in this family.

6. Row B. Write the other remainders.

After each of examples 7 to 9, write the name of its subtraction family.

7. 37 - 9 -----

8. 54 - 6 -----

9. 47 - 8 -----

More about Subtraction Families

Write answers for the examples in rows 1 to 5. Make up one more example in each family and write it, with its answer, in the last column.

Fact	Family Examples		Your Own
1. $10 - 6 = 4$	$20 - 6 = 14$	$40 - 6 = \underline{\hspace{2cm}}$	$\underline{70 - 6 = \hspace{2cm}}$
2. $17 - 9 = 8$	$47 - 9 = \underline{\hspace{2cm}}$	$97 - 9 = \underline{\hspace{2cm}}$	$\underline{\hspace{2cm}}$
3. $13 - 5 = 8$	$63 - 5 = \underline{\hspace{2cm}}$	$83 - 5 = \underline{\hspace{2cm}}$	$\underline{\hspace{2cm}}$
4. $15 - 8 = 7$	$45 - 8 = \underline{\hspace{2cm}}$	$65 - 8 = \underline{\hspace{2cm}}$	$\underline{\hspace{2cm}}$
5. $11 - 5 = 6$	$31 - 5 = \underline{\hspace{2cm}}$	$81 - 5 = \underline{\hspace{2cm}}$	$\underline{\hspace{2cm}}$

For Ex. 6a, *think*, "2, 42." Think the other remainders in rows 6 to 8 in this way, and write them.

Use facts and families for help.

	a	b	c	d
6. 50	72	46	38	34
$\underline{-8}$	$\underline{-4}$	$\underline{-7}$	$\underline{-9}$	$\underline{-6}$
7. 62	90	61¢	76¢	
$\underline{-5}$	$\underline{-7}$	$\underline{-3\text{¢}}$	$\underline{-9\text{¢}}$	
8. 85	43	82¢	35¢	
$\underline{-8}$	$\underline{-7}$	$\underline{-7\text{¢}}$	$\underline{-6\text{¢}}$	

Subtracting More Quickly

When you borrow a ten, you know the ten's figure in the remainder is down 1. So you can think remainders quickly. In Ex. 1a, just *think*, "63."

Think and write the remainders for rows 1 to 6.

	a	b	c	d
1. 71	53	80¢	92¢	
$\underline{-8}$	$\underline{-8}$	$\underline{-4\text{¢}}$	$\underline{-6\text{¢}}$	
2. 67	61	94¢	36¢	
$\underline{-9}$	$\underline{-2}$	$\underline{-9\text{¢}}$	$\underline{-8\text{¢}}$	
3. 41	33	52	$\$0.30$	
$\underline{-7}$	$\underline{-6}$	$\underline{-4}$	$\underline{-0.03}$	
4. 81	62	86	$\$0.65$	
$\underline{-4}$	$\underline{-9}$	$\underline{-7}$	$\underline{-0.07}$	
5. 83	48	91	$\$0.50$	
$\underline{-9}$	$\underline{-9}$	$\underline{-5}$	$\underline{-0.09}$	
6. 23	47	75	$\$0.35$	
$\underline{-4}$	$\underline{-8}$	$\underline{-6}$	$\underline{-0.09}$	



The Camping Trip

Remember: Sums are almost always larger than any number added. Remainders or differences are almost always smaller than the number you subtract from.

In each of Ex. 1 to 5, cross out the one number that you know must be wrong.

1. 28 boys were asked to go on a camping trip. Only 15 of them could go. How many could not go?

40 13 14

2. They found 16 little pieces of wood to start the fire, and 17 larger pieces. How many pieces of wood did they have in all?

40 12 33

3. For supper they used 28 hot dogs. That left 26 hot dogs. How many hot dogs did they have at first?

10 68 54

4. They drank 15 cups of milk for supper and 17 cups for breakfast. In all, they drank how many cups of milk?

2 22 32

5. After supper there were 15 cups and 19 plates to wash. That was how many fewer cups than plates?

4 14 34

Now go back and work each example. Put a ring around the right answer.

Practice in Subtracting

Write remainders. Sometimes you will not need to borrow.

	a	b	c	d	e	f	g	h	i	j
1.	$\begin{array}{r} 48 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 22 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 33 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 75 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 26 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 55 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 70 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 66 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 34 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 41 \\ -2 \\ \hline \end{array}$
2.	$\begin{array}{r} 52 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 41 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 27 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 33 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 88 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 61 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 37 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 84 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 21 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ -9 \\ \hline \end{array}$
3.	$\begin{array}{r} 42 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 23 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 60 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 82 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 39 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 51 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 90 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 67 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 24 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 71 \\ -4 \\ \hline \end{array}$


Practice in Addition and Subtraction

Add or subtract. Watch for carrying and borrowing.

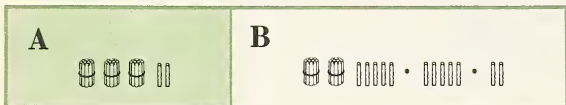
	a	b	c	d	e	f	g	h	i
1.	$\begin{array}{r} 92 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 52 \\ +17 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +60 \\ \hline \end{array}$	$\begin{array}{r} 99 \\ -36 \\ \hline \end{array}$	$\begin{array}{r} 71 \\ +10 \\ \hline \end{array}$	$\begin{array}{r} 81 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 63 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 80\text{¢} \\ -20\text{¢} \\ \hline \end{array}$	$\begin{array}{r} \$0.20 \\ +0.48 \\ \hline \end{array}$
2.	$\begin{array}{r} 32 \\ +45 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ -40 \\ \hline \end{array}$	$\begin{array}{r} 62 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ +18 \\ \hline \end{array}$	$\begin{array}{r} 93 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 87 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 35 \\ +26 \\ \hline \end{array}$	$\begin{array}{r} 78\text{¢} \\ -36\text{¢} \\ \hline \end{array}$	$\begin{array}{r} \$0.79 \\ +0.08 \\ \hline \end{array}$
3.	$\begin{array}{r} 8 \\ +73 \\ \hline \end{array}$	$\begin{array}{r} 71 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 30 \\ +50 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 84 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 42 \\ +14 \\ \hline \end{array}$	$\begin{array}{r} 73 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 41\text{¢} \\ +6\text{¢} \\ \hline \end{array}$	$\begin{array}{r} \$0.50 \\ -0.07 \\ \hline \end{array}$

Subtracting Two 2-Place Numbers with Borrowing

1. One story is 32 pages long. Another story is 14 pages. How many pages longer is the first story? $32 - 14 = ?$

2. Boxes A and B show -pictures for the 32 in Ex. 1.

a. Box A. Can you subtract 4 ones?



b. Box B. A ten has been changed to ones. We have borrowed a ten. Now can you subtract 4 ones?

c. Cross out 4 ones and 1 ten (for 14). The remainder is 1 ten and ---- ones, or

3. Boxes C and D show tens and ones.

a. Box C. Can you subtract the ones?

C
 $\begin{array}{r} 3 \text{ tens and } 2 \text{ ones} \\ - 1 \text{ ten and } 4 \text{ ones} \\ \hline \end{array}$

D
 $\begin{array}{r} 2 \text{ tens and } 12 \text{ ones} \\ - 1 \text{ ten and } 4 \text{ ones} \\ \hline \end{array}$

or

b. Box D. We have borrowed a ten. Are 2 tens and 12 ones the same as 3 tens and 2 ones?

Now can you subtract?

c. Finish the work in box D. Subtract first ones, then tens.

4. Box E shows the short way to subtract 14 from 32. Subtract ones, then tens.

E	$\begin{array}{r} 2 \text{ (12)} \\ 32 \\ - 14 \\ \hline \end{array}$
---	---

Ones. *Think*, "I can't take 4 from 2, so I borrow a ten and put 10 ones with the 2 ones. Then 4 from 12 is 8." Write "8" in one's place in the answer.

Tens. *Think*, "1 from 2 is 1." Write "1" in ten's place in the answer.

Check by adding upward: $8 + 4 = 12$, and $1 + 1 + 1 = 3$.

Draw a ring around the examples in row 5 in which you must borrow.

a	b	c	d	e
5. $\begin{array}{r} 70 \\ - 26 \\ \hline \end{array}$	$\begin{array}{r} 82 \\ - 19 \\ \hline \end{array}$	$\begin{array}{r} 69 \\ - 43 \\ \hline \end{array}$	$\begin{array}{r} 82 \\ - 50 \\ \hline \end{array}$	$\begin{array}{r} 47 \\ - 28 \\ \hline \end{array}$

Cross out the wrong one's and ten's figures in the answers in rows 6 and 7.

6. $\begin{array}{r} 63 \\ - 25 \\ \hline 38 \end{array}$	$\begin{array}{r} 98 \\ - 59 \\ \hline 49 \end{array}$	$\begin{array}{r} 75 \\ - 35 \\ \hline 40 \end{array}$	$\begin{array}{r} 96 \\ - 47 \\ \hline 41 \end{array}$	$\begin{array}{r} 86 \text{ ¢} \\ - 28 \text{ ¢} \\ \hline 68 \text{ ¢} \end{array}$
---	--	--	--	--

7. $\begin{array}{r} 53 \\ - 29 \\ \hline 24 \end{array}$	$\begin{array}{r} 92 \\ - 18 \\ \hline 84 \end{array}$	$\begin{array}{r} 71 \\ - 51 \\ \hline 10 \end{array}$	$\begin{array}{r} 80 \\ - 55 \\ \hline 25 \end{array}$	$\begin{array}{r} 77 \text{ ¢} \\ - 40 \text{ ¢} \\ \hline 27 \text{ ¢} \end{array}$
---	--	--	--	--

Subtract. Be careful about borrowing.

	a	b	c	d	e
8.	$\begin{array}{r} 73 \\ - 27 \\ \hline \end{array}$	$\begin{array}{r} 90 \\ - 77 \\ \hline \end{array}$	$\begin{array}{r} 76 \\ - 19 \\ \hline \end{array}$	$\begin{array}{r} 75 \\ - 58 \\ \hline \end{array}$	$\begin{array}{r} 33 \text{ ¢} \\ - 18 \text{ ¢} \\ \hline \end{array}$
9.	$\begin{array}{r} 54 \\ - 36 \\ \hline \end{array}$	$\begin{array}{r} 64 \\ - 39 \\ \hline \end{array}$	$\begin{array}{r} 63 \\ - 44 \\ \hline \end{array}$	$\begin{array}{r} 85 \\ - 79 \\ \hline \end{array}$	$\begin{array}{r} 32 \text{ ¢} \\ - 13 \text{ ¢} \\ \hline \end{array}$
10.	$\begin{array}{r} 20 \\ - 14 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ - 45 \\ \hline \end{array}$	$\begin{array}{r} 83 \\ - 6 \\ \hline \end{array}$	$\begin{array}{r} 71 \\ - 24 \\ \hline \end{array}$	$\begin{array}{r} 80 \text{ ¢} \\ - 29 \text{ ¢} \\ \hline \end{array}$
11.	$\begin{array}{r} 50 \\ - 26 \\ \hline \end{array}$	$\begin{array}{r} 83 \\ - 49 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ - 7 \\ \hline \end{array}$	$\begin{array}{r} 52 \\ - 30 \\ \hline \end{array}$	$\begin{array}{r} \$0.48 \\ - 0.29 \\ \hline \end{array}$
12.	$\begin{array}{r} 35 \\ - 29 \\ \hline \end{array}$	$\begin{array}{r} 49 \\ - 45 \\ \hline \end{array}$	$\begin{array}{r} 67 \\ - 8 \\ \hline \end{array}$	$\begin{array}{r} 46 \\ - 26 \\ \hline \end{array}$	$\begin{array}{r} \$0.55 \\ - 0.23 \\ \hline \end{array}$
13.	$\begin{array}{r} 41 \\ - 32 \\ \hline \end{array}$	$\begin{array}{r} 93 \\ - 77 \\ \hline \end{array}$	$\begin{array}{r} 92 \\ - 85 \\ \hline \end{array}$	$\begin{array}{r} 61 \\ - 59 \\ \hline \end{array}$	$\begin{array}{r} \$0.52 \\ - 0.37 \\ \hline \end{array}$
14.	$\begin{array}{r} 85 \\ - 46 \\ \hline \end{array}$	$\begin{array}{r} 91 \\ - 33 \\ \hline \end{array}$	$\begin{array}{r} 67 \\ - 49 \\ \hline \end{array}$	$\begin{array}{r} 92 \\ - 26 \\ \hline \end{array}$	$\begin{array}{r} \$0.71 \\ - 0.35 \\ \hline \end{array}$

Finding the Missing Number

In each example find **n**, the missing number. Do your work on another piece of paper. Write the numbers for **n** in the box.

- | | |
|------------------|---------------------|
| 1. $26 + n = 88$ | 2. 17 plus $n = 40$ |
| 3. $n + 35 = 70$ | 4. $64 - 18 = n$ |
| 5. $11 + n = 61$ | 6. 13 and $n = 52$ |

- | | |
|------------------|-------------------|
| 7. $70 - n = 44$ | 8. $50 + n = 83$ |
| 9. $58 - 39 = n$ | 10. $91 - n = 46$ |

1.	2.	3.	4.
5.	6.	7.	8.
9.	10.		

Measuring in Inches, Feet, Yards, and Miles

We measure small things in inches. Bigger things are measured in feet. Still bigger things are measured in yards.

3 feet (ft.) = 1 yard (yd.)

1 yd. = 3 ft.

We use miles to measure long distances, such as that from one city to another.

These questions can be answered by "Yes" or "No." Draw a ring around the right word.

1. Can a truck be 6 yards long?

Yes No

2. Is a foot longer than a yard?

Yes No

3. Can a bed be 7 feet long?

Yes No

4. Can a street be 3 miles long?

Yes No

5. Can a tree be a mile high?

Yes No

In each example think what the numbers mean. Then write the short word "in.," "ft.," "yd.," or "mi." (miles) on the line.

6. A canary is about 5 long.

7. It is more than 700 from New York to Chicago.

8. The front door of Tom's house is about 1 wide.

9. Sue's big doll is 2 tall.

10. Jim is 10 shorter than his father.

11. An airplane can go 325 in an hour.

12. Fred and Ann measured their room at school. It was 30 long.

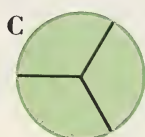
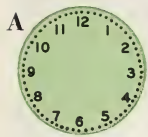
Add or Subtract. Watch the Signs!

	a	b	c	d	e	f	g	h	i	j
1.	$\begin{array}{r} 89 \\ -27 \\ \hline \end{array}$	$\begin{array}{r} 90 \\ -52 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +49 \\ \hline \end{array}$	$\begin{array}{r} 81 \\ -72 \\ \hline \end{array}$	$\begin{array}{r} 96 \\ -54 \\ \hline \end{array}$	$\begin{array}{r} 57 \\ -39 \\ \hline \end{array}$	$\begin{array}{r} 43 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 82 \\ -66 \\ \hline \end{array}$	$\begin{array}{r} 70 \\ -53 \\ \hline \end{array}$	$\begin{array}{r} 28 \\ +59 \\ \hline \end{array}$
2.	$\begin{array}{r} 73 \\ +25 \\ \hline \end{array}$	$\begin{array}{r} 70 \\ -46 \\ \hline \end{array}$	$\begin{array}{r} 62 \\ -48 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ +58 \\ \hline \end{array}$	$\begin{array}{r} 91 \\ -33 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +79 \\ \hline \end{array}$	$\begin{array}{r} 67 \\ -37 \\ \hline \end{array}$	$\begin{array}{r} 23 \\ +40 \\ \hline \end{array}$	$\begin{array}{r} 84 \\ -49 \\ \hline \end{array}$	$\begin{array}{r} 49 \\ +47 \\ \hline \end{array}$
3.	$\begin{array}{r} 20 \\ 5 \\ 0 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 3 \\ 7 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ 0 \\ 8 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 0 \\ 8 \\ 9 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ 3 \\ 3 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ 1 \\ 9 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ 7 \\ 8 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ 3 \\ 8 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ 0 \\ 9 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ 1 \\ 5 \\ +30 \\ \hline \end{array}$

Do You Know?

Part 1

1. Make clock A show a quarter of 2.



2. Divide circle B to show fourths.

3. One part of circle C is

4. In box D, write an example in which you must carry a ten.

D

E

5. In box E, write an example in which you must borrow a ten.

6. A yard is the same as feet.

7. Write an example in the

a. $5 + 9$ family.

b. $13 - 4$ family.

Part 2

Write your answers on the lines.

1. Joe weighs 66 pounds. Tom weighs 5 pounds less, or pounds.

2. If you cut 6 feet off a rope 79 feet long, feet of the long rope will be left.

3. After spending 8¢, Tom has 64¢ left. He must have had¢ at first.

4. On three papers Ellen missed 3, 4, and 4 examples, or examples in all.

5. If you walk 10 blocks and then 5 more blocks, you walk a total of blocks.

6. Jane has read all but 6 pages of a 28-page story. Jane has read pages.

Part 3

Add or subtract. Watch the signs!

	a	b	c	d	e	f	g	h	i	j
1.	40	91	58	85	63	12	90	47	87	52
	<u>+ 20</u>	<u>- 79</u>	<u>- 34</u>	<u>- 7</u>	<u>- 55</u>	<u>+ 69</u>	<u>- 60</u>	<u>+ 8</u>	<u>- 39</u>	<u>- 50</u>

2.	9	13	70	47	22	19	64	53	78	55
	<u>+ 45</u>	<u>+ 85</u>	<u>- 20</u>	<u>- 7</u>	<u>- 17</u>	<u>+ 47</u>	<u>- 48</u>	<u>+ 26</u>	<u>+ 5</u>	<u>- 6</u>

5



Write good questions to make subtraction problems. Then work the problems on another piece of paper, and write the answers in the box under the picture.

1. Ted's father has 3 roosters and 36 hens. -----

2. The hens are black or white. 23 of the 36 hens are white. -----

3. 17 of the 36 hens are in one pen. Ted fed them first. -----

4. Ted's father says he will sell all but 20 of the 36 hens. -----

5. Ted picked up 30 eggs on Monday and 22 eggs on Tuesday. -----

6. Ted dropped and broke 3 of the 22 eggs he picked up on Tuesday. -----

7. Mrs. Clark bought 36 eggs. Mrs. Green bought 24 eggs. -----

Write answers here:

1. -----

2. -----

3. -----

4. -----

5. -----

6. -----

7. -----



1. Ann took 22 tickets to sell for the school fair. Nancy took 17 tickets. Ellen took 33. How many did all three girls take?

Add downward in box A.

Ones: *Think*, "9, 12." Write

"2" in _____ place

in the sum. Carry 1 _____

Tens: *Think*, "3, 4, 7." Write "7" in

_____ place in the sum.

A	1
	22
	17
	<u>+ 33</u>

2. At the fair, Mrs. Allen bought things selling for 25¢, 30¢, 18¢, and 22¢. How much did she pay for all the things?

Look at the two parts of box B. The money numbers are written two ways. Add the same way in both examples.

Add downward and write the sums.

Check your work by adding

B	1
	25¢
	30¢
	18¢
	<u>+ 22¢</u>

\$	1
	0.25
	0.30
	0.18
	<u>+ 0.22</u>

Write the sums for rows 3 to 5.

	a	b	c	d	e	f	g	h	i
3.	24	33	14	25	27	10	52	13¢	\$0.52
	33	10	21	21	12	26	17	2¢	0.05
	<u>+ 12</u>	<u>+ 6</u>	<u>+ 43</u>	<u>+ 30</u>	<u>+ 33</u>	<u>+ 15</u>	<u>+ 4</u>	<u>+ 43¢</u>	<u>+ 0.36</u>

4.	25	13	42	20	3	34	12	20¢	\$0.25
	16	38	13	14	49	17	54	33¢	0.12
	17	35	17	10	10	5	16	13¢	0.23
	<u>+ 30</u>	<u>+ 12</u>	<u>+ 16</u>	<u>+ 6</u>	<u>+ 5</u>	<u>+ 22</u>	<u>+ 7</u>	<u>+ 23¢</u>	<u>+ 0.06</u>

5.	48	7	34	17	10	5	2	28¢	\$0.15
	16	16	13	8	5	52	16	5¢	0.34
	<u>+ 10</u>	2	19	30	7	23	<u>+ 33</u>	26¢	<u>+ 0.16</u>
		<u>+ 14</u>	<u>+ 23</u>	<u>+ 13</u>	<u>+ 56</u>	<u>+ 14</u>		<u>+ 10¢</u>	

Carrying Two or More Tens



1. Mike likes to count. In the parking lot, he counted the cars in three rows. There were 19, 26, and 18. That was how many in all? Look at box A.

Add ones. *Think, "15, 23."* Write "3" in _____ place in the sum. Carry 2 tens.

A	2
	19
	26
	<u>+ 18</u>

Add tens. *Think, "3"* (the 2 carried tens, and 1), "5, 6." Write ____ in ten's place in the sum. The whole sum is _____.

2. In 4 days, Grace worked on her music 19, 25, 26, and 22 minutes. How many minutes was that in all?

Box B. The sum of the ones is _____.

Write _____. Carry _____ tens.

The sum of the tens is _____. Write it in _____ place.

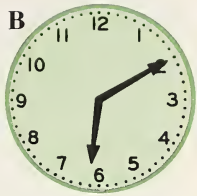
B	2
	19
	25
	26
	<u>+ 22</u>

Many times you must carry 2 tens or more.

Add in rows 3 to 5. Check in row 3 by adding upward.

	a	b	c	d	e	f	g	h	i
3.	18	19	24	5	34	47	31¢	6¢	\$0.03
	16	26	5	17	18	9	9¢	19¢	0.38
	<u>+ 39</u>	<u>+ 35</u>	<u>+ 58</u>	<u>+ 9</u>	<u>+ 17</u>	<u>+ 26</u>	<u>+ 15¢</u>	<u>+ 24¢</u>	<u>+ 0.37</u>
4.	28	37	53	23	49	65	33¢	22¢	\$0.49
	29	14	4	13	7	9	15¢	18¢	0.05
	10	6	29	9	25	14	3¢	6¢	0.06
	<u>+ 19</u>	<u>+ 18</u>	<u>+ 3</u>	<u>+ 33</u>	<u>+ 5</u>	<u>+ 5</u>	<u>+ 8¢</u>	<u>+ 7¢</u>	<u>+ 0.03</u>
5.	25	69	43	39	14	16	18	45	17
	6	4	26	19	37	46	47	4	33
	<u>+ 29</u>	17	13	<u>+ 27</u>	11	17	<u>+ 15</u>	20	14
		<u>+ 9</u>	<u>+ 15</u>		<u>+ 30</u>	<u>+ 11</u>		<u>+ 27</u>	<u>+ 28</u>

Measuring Time in Minutes



1. Does the long hand on a clock show hours or minutes?

2. The spaces made by the little marks around the clock are for

3. Clock A shows o'clock. The long hand is on

4. It will be minutes before the long hand on clock A points to 1. (Count the spaces between 12 and 1.)

5. Clock B. The time is minutes past 6 o'clock.

6. Clock C. The time is just minutes after that shown on clock B.

7. Clock D. The time is minutes before 6.

8. Clock E. The time is minutes before 5.



9. Draw the minute hand on clock F to show 15 minutes past 3.

10. Draw the minute hand on clock G to show 10 minutes before 9.

11. It takes minutes for the minute hand to go around the clock.

60 minutes (min.) = 1 hour (hr.)

Adding Columns

Copy in columns.
Add and check.

A. 9¢, 44¢, 30¢, 6¢

B. 12, 25, 43, 8

C. 20, 6, 7, 34

D. \$0.14, \$0.35, \$0.28

A

B

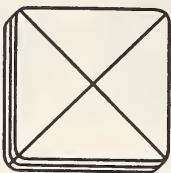
C

D

New Fractions to Name Parts of Things

1. The sandwich is divided into fourths.

This means it has been cut
into parts, and the
parts are in size.



2. Each part of the box is one fifth ($\frac{1}{5}$).



The box is divided into
parts, and the parts are all
.....

3. If you have a sixth ($\frac{1}{6}$) of a candy bar,
the bar has been cut into pieces that
are in size.

4. Learn these new fractions:

$\frac{1}{5}$ (one fifth)

$\frac{1}{8}$ (one eighth)

$\frac{1}{6}$ (one sixth)

$\frac{1}{9}$ (one ninth)

$\frac{1}{7}$ (one seventh)

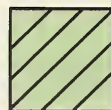
$\frac{1}{10}$ (one tenth)

5. The 3 in $\frac{1}{3}$ tells that the thing has
been divided into 3 equal parts.

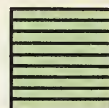
The 8 in $\frac{1}{8}$ means that the thing has
been divided into equal parts.

6. In the fraction $\frac{1}{7}$, which figure tells
the number of equal parts?

7. Put a big X on the squares that show
sixths.



8. Put a big X on the squares that show
ninths.



9. Write the fraction that tells the size
of each part in these circles:



10. Change box A to show sixths.



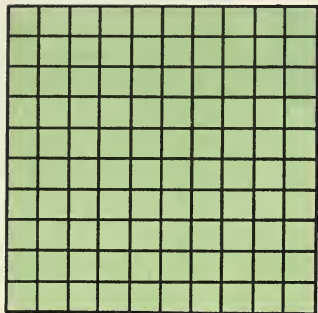
11. Change box B to show tenths.

Time for Practice!

Add downward. Check by adding upward.

a	b	c	d	e	f	g	h	i	j
9	3	32	16	27	54	23	45	46	15
15	57	15	20	6	6	40	18	1	23
<u>+ 10</u>	11	8	39	23	30	8	6	<u>+ 37</u>	25
	<u>+ 6</u>	<u>+ 24</u>	<u>+ 10</u>	<u>+ 2</u>	<u>+ 9</u>	<u>+ 7</u>	<u>+ 30</u>		<u>+ 16</u>

Working with Three-Place Numbers



1. Would you like to count all the little squares by 1's?

2. Each row has 10 little squares, so you can count by 10's. Ten 10's =

3. Write the missing numbers, as in a.

a. $80 = \underline{8}$ tens d. $390 = \underline{\quad}$ tens

b. $90 = \underline{\quad}$ tens e. $820 = \underline{\quad}$ tens

c. $100 = \underline{\quad}$ tens f. $610 = \underline{\quad}$ tens

6. Fill in the missing numbers, as in a.

a. $347 = \underline{3}$ hundreds and $\underline{4}$ tens and $\underline{7}$ ones ($300 + 40 + 7$)

or $\underline{34}$ tens and $\underline{7}$ ones ($340 + 7$)

b. $682 = \underline{\quad}$ hundreds and $\underline{\quad}$ tens and $\underline{\quad}$ ones ($600 + \underline{\quad} + \underline{\quad}$)

or $\underline{\quad}$ tens and $\underline{\quad}$ ones ($680 + \underline{\quad}$)

c. $804 = \underline{\quad}$ hundreds and $\underline{\quad}$ tens and $\underline{\quad}$ ones ($\underline{\quad} + \underline{\quad} + \underline{\quad}$)

or $\underline{\quad}$ tens and $\underline{\quad}$ ones ($\underline{\quad} + \underline{\quad}$)

d. $630 = \underline{\quad}$ hundreds and $\underline{\quad}$ tens and $\underline{\quad}$ ones ($\underline{\quad} + \underline{\quad} + \underline{\quad}$)

or $\underline{\quad}$ tens and $\underline{\quad}$ ones ($\underline{\quad} + \underline{\quad}$)

4. Put the figures of the numbers in the right places:

	Hundreds	Tens	Ones
a. 560	<u>5</u>	<u>6</u>	<u>0</u>
b. 937	-----	-----	-----
c. 204	-----	-----	-----
d. 819	-----	-----	-----

5. Write the number that means

a. 3 ones, 4 hundreds, 6 tens 463

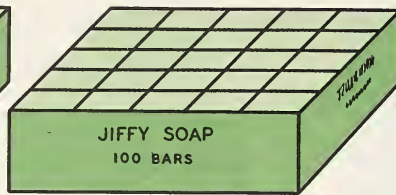
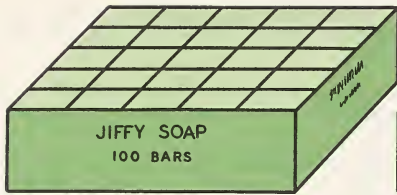
b. 6 ones, 7 hundreds, 0 tens -----

c. 3 hundreds, 8 ones, 0 tens -----

d. 3 tens, 4 hundreds, 2 ones -----

e. 4 hundreds, 0 ones, 3 tens -----

Adding Three-Place Numbers



A

$$\begin{array}{r} 100 \\ + 100 \\ \hline \end{array}$$

B

$$\begin{array}{r} 300 \\ + 500 \\ \hline \end{array}$$

1. How many bars of soap in the 2 boxes?
 - a. Count by hundreds.,
 - b. Add. 1 hundred and 1 hundred are 2 hundreds, or
 - c. Box A. Add with figures.
2. $300 + 500 = ?$
 - a. 3 hundreds and 5 hundreds are ... hundreds, or
 - b. Box B. Add with figures. Write the sum in the box.

You can add hundreds like ones.

C

$$\begin{array}{l} 2 \text{ hundreds and } 3 \text{ tens and } 4 \text{ ones} \\ + 6 \text{ hundreds and } 2 \text{ tens and } 5 \text{ ones} \\ \hline \end{array}$$

... hundreds and ... tens and ... ones, or

D

$$\begin{array}{r} 234 \\ + 625 \\ \hline \end{array}$$

E

$$\begin{array}{r} 438 \\ + 247 \\ \hline \end{array}$$

3. $234 + 625 = ?$ Finish box C.
4. The short way to add 234 and 625 is with figures as in box D. Add ones, then tens, then hundreds.
Write the sum in box D.
5. $438 + 247 = ?$ See box E.
Add ones, then tens, then hundreds.
Must you carry a ten?
Write the sum in box E.

Add in rows 6 and 7. Check row 6.

	a	b	c	d	e	f	g	h
6.	200	600	789	301	142	\$1.03	\$3.25	\$1.59
	<u>+ 400</u>	<u>+ 300</u>	<u>+ 110</u>	<u>+ 425</u>	<u>+ 246</u>	<u>+ 1.88</u>	<u>+ 4.65</u>	<u>+ 2.06</u>

7.	503	217	103	435	308	\$6.25	\$3.69	\$1.38
	<u>+ 26</u>	<u>+ 743</u>	<u>+ 384</u>	<u>+ 555</u>	<u>+ 49</u>	<u>+ 1.28</u>	<u>+ 0.28</u>	<u>+ 6.16</u>

Add or Subtract. Watch the Signs!

a	b	c	d	e	f	g	h
1. \$ 0.81 <u>- 0.76</u>	\$ 0.37 <u>+ 0.26</u>	\$ 0.74 <u>- 0.36</u>	86 <u>- 7</u>	77 <u>- 38</u>	27 <u>+ 38</u>	55 <u>- 16</u>	79 <u>- 54</u>
2. \$ 6.19 <u>+ 2.73</u>	\$ 3.48 <u>+ 5.37</u>	\$ 0.65 <u>- 0.57</u>	712 <u>+ 258</u>	829 <u>+ 148</u>	94 <u>- 47</u>	648 <u>+ 326</u>	257 <u>+ 614</u>
3. \$ 0.79 <u>+ 6.19</u>	\$ 0.46 <u>- 0.28</u>	\$ 4.42 <u>+ 4.54</u>	824 <u>+ 9</u>	139 <u>+ 307</u>	426 <u>+ 328</u>	72 <u>- 43</u>	52 <u>- 39</u>
4. \$ 0.43 0.06 0.17 <u>+ 0.22</u>	\$ 0.14 0.49 0.05 <u>+ 0.26</u>	\$ 0.07 0.66 0.08 <u>+ 0.13</u>	8¢ 9¢ 6¢ <u>+ 8¢</u>	21¢ 40¢ 8¢ <u>+ 16¢</u>	50¢ 8¢ 9¢ <u>+ 8¢</u>	14¢ 18¢ 19¢ <u>+ 16¢</u>	30¢ 9¢ 44¢ <u>+ 7¢</u>

Can You Tell?

- | | |
|---|--|
| <p>1. 409. If the 0 and 9 change places, will the new number be smaller?</p> <p>2. 672. If the 6 and 2 change places, will the new number be larger?</p> <p>3. 340. If the 4 and 0 change places, will the new number be smaller?</p> <p>4. In 693, are there 69 tens in all?
.....</p> <p>5. Does it take 3 figures to write a three-place number?</p> <p>Must the figures be different?</p> | <p>6. To get $\frac{1}{5}$ of a cake, you must cut the cake into equal parts.</p> <p>7. "One ninth" in figures is</p> <p>8. You must borrow a ten when you cannot subtract the</p> <p>9. An hour has minutes.</p> <p>10. $71 - 6$ is part of the family.</p> <p>11. $8 + 74$ is in the family.</p> <p>12. When the sum of the ones is 10 or more, you carry a</p> |
|---|--|

Carrying Hundreds



1. One day, Kay counted her steps when she went to the drugstore. She took 93 steps to the corner and 31 more to the drugstore. How many did she take in all? Look at box A.

Add ones. $3 + 1 = \dots$

Add tens. $9 + 3 = 12$. But

12 tens make 1 hundred and

2 tens. Write "2" in _____ place

and "1" in _____ place.

A

$$\begin{array}{r} 93 \\ + 31 \\ \hline 124 \end{array}$$

2. 264 steps and 85 steps make how many steps in all? Look at box B.

Add ones. Write _____.

Add tens. $6 + 8 = 14$. *Think,*

"14 tens = 1 hundred and 4

tens." Write "4" in _____

place. Carry 1 _____.

Add hundreds: *Think,* _____. Write "3" in hundred's place.

B

$$\begin{array}{r} 1 \\ 264 \\ + 85 \\ \hline \end{array}$$

When the sum of the ten's figures means 10 tens or more, you carry a hundred.

You carry hundreds just as you carry tens.

Add. Try to do the carrying "in your head."

	a	b	c	d	e	f	g	h
3.	$\begin{array}{r} 78 \\ + 60 \\ \hline \end{array}$	$\begin{array}{r} 43 \\ + 65 \\ \hline \end{array}$	$\begin{array}{r} 50 \\ + 88 \\ \hline \end{array}$	$\begin{array}{r} 139 \\ + 70 \\ \hline \end{array}$	$\begin{array}{r} 187 \\ + 82 \\ \hline \end{array}$	$\begin{array}{r} \$0.92 \\ + 1.65 \\ \hline \end{array}$	$\begin{array}{r} \$0.73 \\ + 0.84 \\ \hline \end{array}$	$\begin{array}{r} \$1.68 \\ + 0.71 \\ \hline \end{array}$

4.	$\begin{array}{r} 340 \\ + 260 \\ \hline \end{array}$	$\begin{array}{r} 58 \\ + 360 \\ \hline \end{array}$	$\begin{array}{r} 482 \\ + 95 \\ \hline \end{array}$	$\begin{array}{r} 287 \\ + 260 \\ \hline \end{array}$	$\begin{array}{r} 242 \\ + 557 \\ \hline \end{array}$	$\begin{array}{r} \$0.55 \\ + 8.03 \\ \hline \end{array}$	$\begin{array}{r} \$1.64 \\ + 4.73 \\ \hline \end{array}$	$\begin{array}{r} \$6.41 \\ + 1.94 \\ \hline \end{array}$
----	---	--	--	---	---	---	---	---

5.	$\begin{array}{r} 583 \\ + 120 \\ \hline \end{array}$	$\begin{array}{r} 209 \\ + 684 \\ \hline \end{array}$	$\begin{array}{r} 267 \\ + 704 \\ \hline \end{array}$	$\begin{array}{r} 559 \\ + 222 \\ \hline \end{array}$	$\begin{array}{r} 338 \\ + 115 \\ \hline \end{array}$	$\begin{array}{r} \$2.50 \\ + 6.75 \\ \hline \end{array}$	$\begin{array}{r} \$4.96 \\ + 3.53 \\ \hline \end{array}$	$\begin{array}{r} \$4.36 \\ + 2.09 \\ \hline \end{array}$
----	---	---	---	---	---	---	---	---

6.	$\begin{array}{r} 360 \\ + 470 \\ \hline \end{array}$	$\begin{array}{r} 143 \\ + 748 \\ \hline \end{array}$	$\begin{array}{r} 287 \\ + 442 \\ \hline \end{array}$	$\begin{array}{r} 384 \\ + 503 \\ \hline \end{array}$	$\begin{array}{r} 407 \\ + 285 \\ \hline \end{array}$	$\begin{array}{r} \$9.18 \\ + 0.44 \\ \hline \end{array}$	$\begin{array}{r} \$0.75 \\ + 0.72 \\ \hline \end{array}$	$\begin{array}{r} \$2.56 \\ + 6.53 \\ \hline \end{array}$
----	---	---	---	---	---	---	---	---

Carrying both a Ten and a Hundred

1. Mr. Ford got 368 bags of potatoes from one field and 275 bags from another. That was how many bags in all?

$$368 + 275 = ?$$

Study the work in the box below.

Ones. $8 + 5 = 13$.

Carry a -----

Tens. $1 + 6 + 7 =$ -----

Carry a -----

Hundreds. $1 + 3 + 2 =$ -----

Hundreds	Tens	Ones
3	6	8
+2	7	5
6	4	3

2. Cross out wrong figures in the sums.

$\begin{array}{r} 137 \\ +575 \\ \hline 702 \end{array}$	$\begin{array}{r} 259 \\ +346 \\ \hline 505 \end{array}$	$\begin{array}{r} 148 \\ +776 \\ \hline 924 \end{array}$	$\begin{array}{r} \$2.46 \\ +2.37 \\ \hline \$5.83 \end{array}$
--	--	--	---

Sometimes you must carry both a ten and a hundred.

Find the sums.

a	b	c	d
3. $\begin{array}{r} 429 \\ +244 \\ \hline \end{array}$	$\begin{array}{r} 397 \\ +52 \\ \hline \end{array}$	$\begin{array}{r} \$1.48 \\ +7.76 \\ \hline \end{array}$	$\begin{array}{r} \$3.52 \\ +5.33 \\ \hline \end{array}$
4. $\begin{array}{r} 259 \\ +258 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ +537 \\ \hline \end{array}$	$\begin{array}{r} \$6.09 \\ +1.99 \\ \hline \end{array}$	$\begin{array}{r} \$4.80 \\ +2.99 \\ \hline \end{array}$
5. $\begin{array}{r} 386 \\ +277 \\ \hline \end{array}$	$\begin{array}{r} 26 \\ +78 \\ \hline \end{array}$	$\begin{array}{r} \$0.98 \\ +5.33 \\ \hline \end{array}$	$\begin{array}{r} \$1.26 \\ +8.59 \\ \hline \end{array}$
6. $\begin{array}{r} 216 \\ +185 \\ \hline \end{array}$	$\begin{array}{r} 503 \\ +97 \\ \hline \end{array}$	$\begin{array}{r} \$1.85 \\ +6.49 \\ \hline \end{array}$	$\begin{array}{r} \$0.79 \\ +5.21 \\ \hline \end{array}$
7. $\begin{array}{r} 127 \\ +489 \\ \hline \end{array}$	$\begin{array}{r} 319 \\ +493 \\ \hline \end{array}$	$\begin{array}{r} \$5.37 \\ +3.88 \\ \hline \end{array}$	$\begin{array}{r} \$6.69 \\ +1.41 \\ \hline \end{array}$
8. $\begin{array}{r} 179 \\ +122 \\ \hline \end{array}$	$\begin{array}{r} 235 \\ +666 \\ \hline \end{array}$	$\begin{array}{r} \$3.47 \\ +5.56 \\ \hline \end{array}$	$\begin{array}{r} \$4.78 \\ +4.49 \\ \hline \end{array}$

Easy Money Problems

Write answers on the lines.

1. Ellen had 55¢. After buying bird seed, she had 5¢ left. The bird seed cost -----¢.

2. Aunt Kate gave Ann a half dollar. Ann spent 30¢ of it for a game. Then she had -----¢ left.

3. Joe has 30¢ in his bank. To have 80¢, he must save -----¢ more.

4. Mike has 30¢ in two coins. If one coin is a nickel, the other must be a -----.

5. Ruth has 40¢ in her pocket and 9¢ in her hand. She has -----¢ in all.

6. Carol has 35¢. Mary has 6¢ more, or -----¢.

7. Richard's 40¢ is -----¢ more than Ed's 8¢.

Practice in Adding

	a	b	c	d	e	f	g	h
1.	37 25 <u>+ 18</u>	23 16 <u>+ 5</u>	7 26 <u>+ 49</u>	18 17 <u>+ 8</u>	58 15 <u>+ 6</u>	8¢ 46¢ <u>+ 29¢</u>	37¢ 19¢ <u>+ 8¢</u>	\$0.29 0.18 <u>+ 0.08</u>
2.	43 9 7 <u>+ 33</u>	18 21 15 <u>+ 23</u>	26 47 1 <u>+ 7</u>	9 17 31 <u>+ 4</u>	23 9 40 <u>+ 18</u>	14¢ 2¢ 47¢ <u>+ 3¢</u>	10¢ 58¢ 7¢ <u>+ 16¢</u>	\$0.09 0.26 0.30 <u>+ 0.05</u>

Subtracting Three-Place Numbers



1. Nelson's Shoe Store put 800 pairs of shoes on sale. The first day, 500 pairs were sold. How many pairs were left?

8 hundreds — 5 hundreds =

_____ hundreds, or _____

You can subtract hundreds like ones.

2. Finish: $900 - 400 =$ _____

3. Box A. $756 - 234 = ?$
First subtract ones, then tens, then hundreds.

Write the remainder in the box.

A
756
<u>— 234</u>

4. $\$9.87 - \$4.37 = ?$

Do the subtracting in box B and write the remainder in the box.

B
\$9.87
<u>— 4.37</u>

5. $563 - 457 = ?$

Box C. Must you borrow

a ten? _____

Write the remainder.

Check by adding upward.

C	Hundreds	Tens	Ones
	5	6	3
	5	5	13
	<u>— 4</u>	<u>5</u>	<u>7</u>

Subtract in rows 6 and 7. Check your work.

	a	b	c	d	e	f	g	h
6.	756 <u>— 416</u>	829 <u>— 508</u>	358 <u>— 36</u>	657 <u>— 27</u>	424 <u>— 418</u>	\$8.52 <u>— 7.17</u>	\$7.52 <u>— 1.28</u>	\$9.36 <u>— 9.08</u>
7.	891 <u>— 406</u>	900 <u>— 400</u>	556 <u>— 37</u>	575 <u>— 28</u>	970 <u>— 459</u>	\$6.93 <u>— 6.24</u>	\$7.93 <u>— 3.55</u>	\$9.87 <u>— 3.68</u>

Borrowing Hundreds

1. 348 children go to the Carr School. That is 65 more than there are in the Ames School. How many children are in the Ames School? $348 - 65 = ?$

Box A. Ones: Subtract, and write the answer in the box.

Tens: Can you take 6 from 4?

Borrow 1 hundred, or 10 tens, from the 3 hundreds. Add the 10 tens to the 4 tens to get 14 tens. Subtract.

Hundreds: Bring down the 2.

2. $653 - 273 = ?$ Do the subtracting in box B.

A

$$\begin{array}{r} 348 \\ - 65 \\ \hline \end{array}$$

B

$$\begin{array}{r} 653 \\ - 273 \\ \hline \end{array}$$

Subtract. Check in rows 3 and 4.

	a	b	c	d
3.	$\begin{array}{r} 456 \\ - 96 \\ \hline \end{array}$	$\begin{array}{r} 370 \\ - 180 \\ \hline \end{array}$	$\begin{array}{r} 605 \\ - 230 \\ \hline \end{array}$	$\begin{array}{r} \$4.52 \\ - 3.61 \\ \hline \end{array}$

4.	$\begin{array}{r} 519 \\ - 185 \\ \hline \end{array}$	$\begin{array}{r} 368 \\ - 96 \\ \hline \end{array}$	$\begin{array}{r} 969 \\ - 387 \\ \hline \end{array}$	$\begin{array}{r} \$8.26 \\ - 2.42 \\ \hline \end{array}$
----	---	--	---	---

5.	$\begin{array}{r} 596 \\ - 92 \\ \hline \end{array}$	$\begin{array}{r} 720 \\ - 180 \\ \hline \end{array}$	$\begin{array}{r} 445 \\ - 241 \\ \hline \end{array}$	$\begin{array}{r} \$9.38 \\ - 3.71 \\ \hline \end{array}$
----	--	---	---	---

6.	$\begin{array}{r} 717 \\ - 172 \\ \hline \end{array}$	$\begin{array}{r} 609 \\ - 65 \\ \hline \end{array}$	$\begin{array}{r} 528 \\ - 324 \\ \hline \end{array}$	$\begin{array}{r} \$8.35 \\ - 5.40 \\ \hline \end{array}$
----	---	--	---	---

When you cannot subtract the tens in a subtraction example, you borrow a hundred.

Borrow hundreds just as you borrow tens.

Can You Tell?

1. Write "one seventh" in figures:

2. Box A. Write numbers to make an example in which you must borrow a hundred.

A

$$\begin{array}{r} 428 \\ - \quad 7 \\ \hline \end{array}$$

3. You carry a hundred

when the sum of the figures means 10 tens or more.

4. $n + 6 = 75$. $n = \dots\dots\dots$

5. $n - 6 = 75$. $n = \dots\dots\dots$

6. $75 - n = 6$. $n = \dots\dots\dots$

7. Write numbers in box B to make an example in which you will have to carry both a ten and a hundred.

B

$$\begin{array}{r} 278 \\ + \quad \quad \\ \hline \end{array}$$

8. The difference between 62 and 7 is

9. There are things in a dozen.

10. The largest number you can write with the figures 8, 2, and 7 is

11. Another way to write 125¢ is

Borrowing both a Ten and a Hundred



1. In the lunch room, the children bought all but 89 of the 475 sandwiches. How many sandwiches were bought?

$$475 - 89 = ?$$

Box A. To subtract the ones, must you borrow a ten?

A

$$\begin{array}{r} 6 \text{ (15)} \\ 47\cancel{5} \\ - 89 \\ \hline 6 \end{array}$$

Can you subtract the tens?

Box B. Borrow a hundred.

Change it to tens to make

B

$$\begin{array}{r} 3 \text{ (16) (15)} \\ 47\cancel{5} \\ - 89 \\ \hline 6 \end{array}$$

----- tens in all.

Finish the work in box B.

Sometimes you borrow both a ten and a hundred.

Cross out wrong figures in remainders.

	a	b	c	d	e	f	g	h	i
2.	$\begin{array}{r} 326 \\ - 286 \\ \hline 140 \end{array}$	$\begin{array}{r} 458 \\ - 164 \\ \hline 294 \end{array}$	$\begin{array}{r} 950 \\ - 875 \\ \hline 175 \end{array}$	$\begin{array}{r} \$7.53 \\ - 4.89 \\ \hline \$2.74 \end{array}$	$\begin{array}{r} \$5.65 \\ - 2.95 \\ \hline \$3.70 \end{array}$	$\begin{array}{r} 329 \\ - 234 \\ \hline 95 \end{array}$	$\begin{array}{r} 621 \\ - 84 \\ \hline 547 \end{array}$	$\begin{array}{r} \$8.38 \\ - 4.29 \\ \hline \$3.09 \end{array}$	$\begin{array}{r} \$6.68 \\ - 2.79 \\ \hline \$4.99 \end{array}$

Subtract. Check in row 3.

3.	$\begin{array}{r} 837 \\ - 743 \\ \hline \end{array}$	$\begin{array}{r} 429 \\ - 95 \\ \hline \end{array}$	$\begin{array}{r} 567 \\ - 178 \\ \hline \end{array}$	$\begin{array}{r} 791 \\ - 22 \\ \hline \end{array}$	$\begin{array}{r} 595 \\ - 356 \\ \hline \end{array}$	$\begin{array}{r} 626 \\ - 296 \\ \hline \end{array}$	$\begin{array}{r} 557 \\ - 448 \\ \hline \end{array}$	$\begin{array}{r} \$9.91 \\ - 6.53 \\ \hline \end{array}$	$\begin{array}{r} \$8.20 \\ - 2.76 \\ \hline \end{array}$
----	---	--	---	--	---	---	---	---	---

4.	$\begin{array}{r} 397 \\ - 194 \\ \hline \end{array}$	$\begin{array}{r} 456 \\ - 84 \\ \hline \end{array}$	$\begin{array}{r} 477 \\ - 295 \\ \hline \end{array}$	$\begin{array}{r} 871 \\ - 90 \\ \hline \end{array}$	$\begin{array}{r} 689 \\ - 638 \\ \hline \end{array}$	$\begin{array}{r} 862 \\ - 194 \\ \hline \end{array}$	$\begin{array}{r} 839 \\ - 657 \\ \hline \end{array}$	$\begin{array}{r} \$3.59 \\ - 1.67 \\ \hline \end{array}$	$\begin{array}{r} \$4.53 \\ - 1.89 \\ \hline \end{array}$
----	---	--	---	--	---	---	---	---	---

5.	$\begin{array}{r} 618 \\ - 409 \\ \hline \end{array}$	$\begin{array}{r} 780 \\ - 97 \\ \hline \end{array}$	$\begin{array}{r} 979 \\ - 386 \\ \hline \end{array}$	$\begin{array}{r} 886 \\ - 436 \\ \hline \end{array}$	$\begin{array}{r} 876 \\ - 787 \\ \hline \end{array}$	$\begin{array}{r} 524 \\ - 186 \\ \hline \end{array}$	$\begin{array}{r} 645 \\ - 95 \\ \hline \end{array}$	$\begin{array}{r} \$8.54 \\ - 3.78 \\ \hline \end{array}$	$\begin{array}{r} \$9.55 \\ - 6.67 \\ \hline \end{array}$
----	---	--	---	---	---	---	--	---	---

6.	$\begin{array}{r} 340 \\ - 60 \\ \hline \end{array}$	$\begin{array}{r} 187 \\ - 27 \\ \hline \end{array}$	$\begin{array}{r} 443 \\ - 296 \\ \hline \end{array}$	$\begin{array}{r} 645 \\ - 578 \\ \hline \end{array}$	$\begin{array}{r} 631 \\ - 258 \\ \hline \end{array}$	$\begin{array}{r} 336 \\ - 85 \\ \hline \end{array}$	$\begin{array}{r} 169 \\ - 95 \\ \hline \end{array}$	$\begin{array}{r} \$6.32 \\ - 4.76 \\ \hline \end{array}$	$\begin{array}{r} \$5.56 \\ - 3.97 \\ \hline \end{array}$
----	--	--	---	---	---	--	--	---	---

0 in Ten's Place

1. Mr. Hill had 604 bricks to make a wall. He had 28 left when the wall was finished. How many bricks had he used?

$$604 - 28 = ?$$

Box A. Must you borrow a ten to subtract ones ($4 - 8$)?

Can you borrow from 0 tens?

Think of 604 as 60 tens and 4 ones. Then borrow a ten from the 60 tens.

$$2. 305 - 258 = ?$$

Box B. Must you borrow a ten?

Think of 305 as tens and 5 ones. Borrow one of the 30 tens.

Finish box B.

$$3. \$7.01 - \$3.65 = ?$$

Box C. Show the borrowing.

A

$$\begin{array}{r} \overset{5}{\cancel{6}} \overset{9}{\cancel{0}} \overset{14}{4} \\ - 28 \\ \hline 576 \end{array}$$

B

$$\begin{array}{r} \overset{2}{\cancel{3}} \overset{9}{\cancel{0}} \overset{15}{5} \\ - 258 \\ \hline \end{array}$$

C

$$\begin{array}{r} \$7.01 \\ - 3.65 \\ \hline \$3.36 \end{array}$$

Cross out wrong figures in remainders.

	a	b	c	d
4.	$\begin{array}{r} 309 \\ - 24 \\ \hline 385 \end{array}$	$\begin{array}{r} 502 \\ - 437 \\ \hline 75 \end{array}$	$\begin{array}{r} 703 \\ - 575 \\ \hline 238 \end{array}$	$\begin{array}{r} \$8.06 \\ - 4.37 \\ \hline \$3.79 \end{array}$

Subtract. Check in rows 5 and 6.

5.	$\begin{array}{r} 603 \\ - 427 \\ \hline \end{array}$	$\begin{array}{r} 702 \\ - 349 \\ \hline \end{array}$	$\begin{array}{r} 801 \\ - 87 \\ \hline \end{array}$	$\begin{array}{r} \$3.03 \\ - 2.78 \\ \hline \end{array}$
----	---	---	--	---

6.	$\begin{array}{r} 609 \\ - 373 \\ \hline \end{array}$	$\begin{array}{r} 802 \\ - 798 \\ \hline \end{array}$	$\begin{array}{r} 608 \\ - 93 \\ \hline \end{array}$	$\begin{array}{r} \$9.02 \\ - 8.87 \\ \hline \end{array}$
----	---	---	--	---

7.	$\begin{array}{r} 706 \\ - 217 \\ \hline \end{array}$	$\begin{array}{r} 801 \\ - 338 \\ \hline \end{array}$	$\begin{array}{r} 554 \\ - 369 \\ \hline \end{array}$	$\begin{array}{r} \$8.53 \\ - 4.76 \\ \hline \end{array}$
----	---	---	---	---

8.	$\begin{array}{r} 806 \\ - 218 \\ \hline \end{array}$	$\begin{array}{r} 581 \\ - 299 \\ \hline \end{array}$	$\begin{array}{r} 222 \\ - 146 \\ \hline \end{array}$	$\begin{array}{r} \$7.05 \\ - 6.47 \\ \hline \end{array}$
----	---	---	---	---

9.	$\begin{array}{r} 908 \\ - 599 \\ \hline \end{array}$	$\begin{array}{r} 932 \\ - 534 \\ \hline \end{array}$	$\begin{array}{r} 603 \\ - 468 \\ \hline \end{array}$	$\begin{array}{r} \$8.21 \\ - 3.23 \\ \hline \end{array}$
----	---	---	---	---

What Number Is n?

In each example find **n**, the missing number.

Think each answer. Then write it in the box.

1. $n = 70 + 6$

7. $n = 85 - 9$

2. $86 - n = 6$

8. $n = 64 + 7$

3. $72 - n = 8$

9. $81 - n = 7$

4. $n - 5 = 70$

10. $n + 2 = 71$

5. $6 + n = 50$

11. $n - 4 = 58$

6. $43 - 6 = n$

12. $73 - n = 8$

1.	5.	9.
2.	6.	10.
3.	7.	11.
4.	8.	12.

Borrowing with 0 in One's Place and Ten's Place



1. Our Sunday school has 165 toys for the Children's Home. We want 200 in all. How many more do we need?

A

$$\begin{array}{r} \overset{1\ 9\ 10}{200} \\ - 165 \\ \hline 35 \end{array}$$

$$200 - 165 = ?$$

Box A. Think of 200 as

20 tens. Borrow 1 ten,

leaving ----- tens. Then

subtract.

$$2. 700 - 87 = ? \text{ Box B.}$$

Think of 700 as ----- tens.

Then borrow --- ten, leaving

----- tens. Finish the work.

$$3. \$9.00 - \$6.25 = ?$$

Show the borrowing and finish in box C.

Cross out wrong figures in remainders.

	a	b	c	d
4.	200	600	500	\$8.00
	<u>-68</u>	<u>-536</u>	<u>-76</u>	<u>-2.79</u>
	142	164	424	\$5.31

Subtract. Check in row 5.

5.	700	300	500	\$8.00
	<u>-532</u>	<u>-268</u>	<u>-99</u>	<u>-7.58</u>

6.	600	900	700	\$8.00
	<u>-373</u>	<u>-862</u>	<u>-256</u>	<u>-3.95</u>

7.	600	500	400	\$6.00
	<u>-487</u>	<u>-24</u>	<u>-291</u>	<u>-2.43</u>

8.	900	610	700	\$8.10
	<u>-250</u>	<u>-57</u>	<u>-698</u>	<u>-5.40</u>

9.	411	602	900	\$7.05
	<u>-83</u>	<u>-574</u>	<u>-81</u>	<u>-2.96</u>

Write remainders for these:

	a	b	c	d	e	f	g	h
10.	473	875	187	600	819	193	\$7.02	\$6.53
	<u>-169</u>	<u>-305</u>	<u>-93</u>	<u>-591</u>	<u>-483</u>	<u>-70</u>	<u>-0.39</u>	<u>-2.87</u>

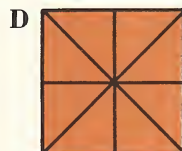
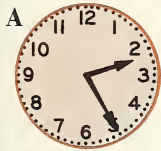
11.	700	513	715	821	124	503	\$6.36	\$9.04
	<u>-83</u>	<u>-446</u>	<u>-106</u>	<u>-547</u>	<u>-66</u>	<u>-114</u>	<u>-2.06</u>	<u>-3.99</u>

Practice in Adding and Subtracting

	a	b	c	d	e	f	g	h	i
1.	$\begin{array}{r} 176 \\ -90 \\ \hline \end{array}$	$\begin{array}{r} 69 \\ +38 \\ \hline \end{array}$	$\begin{array}{r} 705 \\ -84 \\ \hline \end{array}$	$\begin{array}{r} 515 \\ -306 \\ \hline \end{array}$	$\begin{array}{r} 800 \\ -256 \\ \hline \end{array}$	$\begin{array}{r} 503 \\ +470 \\ \hline \end{array}$	$\begin{array}{r} 402 \\ -200 \\ \hline \end{array}$	$\begin{array}{r} 978 \\ -343 \\ \hline \end{array}$	$\begin{array}{r} 324 \\ +73 \\ \hline \end{array}$
2.	$\begin{array}{r} 506 \\ -277 \\ \hline \end{array}$	$\begin{array}{r} 721 \\ -65 \\ \hline \end{array}$	$\begin{array}{r} 84 \\ +256 \\ \hline \end{array}$	$\begin{array}{r} 610 \\ -247 \\ \hline \end{array}$	$\begin{array}{r} 147 \\ -68 \\ \hline \end{array}$	$\begin{array}{r} 317 \\ +185 \\ \hline \end{array}$	$\begin{array}{r} 309 \\ -178 \\ \hline \end{array}$	$\begin{array}{r} 270 \\ +386 \\ \hline \end{array}$	$\begin{array}{r} 600 \\ -516 \\ \hline \end{array}$
3.	$\begin{array}{r} 123 \\ +326 \\ \hline \end{array}$	$\begin{array}{r} 900 \\ -79 \\ \hline \end{array}$	$\begin{array}{r} 796 \\ -206 \\ \hline \end{array}$	$\begin{array}{r} 711 \\ -34 \\ \hline \end{array}$	$\begin{array}{r} 258 \\ +626 \\ \hline \end{array}$	$\begin{array}{r} 782 \\ -379 \\ \hline \end{array}$	$\begin{array}{r} 600 \\ -447 \\ \hline \end{array}$	$\begin{array}{r} 425 \\ +293 \\ \hline \end{array}$	$\begin{array}{r} 523 \\ -84 \\ \hline \end{array}$
4.	$\begin{array}{r} 40 \\ 38 \\ 56 \\ +19 \\ \hline \end{array}$	$\begin{array}{r} 6\text{¢} \\ 7\text{¢} \\ 9\text{¢} \\ 0\text{¢} \\ +7\text{¢} \\ \hline \end{array}$	$\begin{array}{r} 37 \\ 40 \\ 39 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 7\text{¢} \\ 47\text{¢} \\ 9\text{¢} \\ +29\text{¢} \\ \hline \end{array}$	$\begin{array}{r} 54 \\ 8 \\ 7 \\ +39 \\ \hline \end{array}$	$\begin{array}{r} 52 \\ 29 \\ 60 \\ +58 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 0 \\ 9 \\ 0 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ 31 \\ 5 \\ +72 \\ \hline \end{array}$	$\begin{array}{r} \$0.06 \\ 0.99 \\ 0.13 \\ +0.40 \\ \hline \end{array}$

Do You Know?

Part 1



- Clock A shows that the time is minutes past
- Clock B shows that the time is minutes before
- Draw the minute hand on clock C to show 20 minutes past 9.
- In 868, 6 is in place.
- In 507, is in hundred's place.
- Each part of square D is
- Each part of square E is
- You borrow a hundred in an example when you cannot subtract the
- In Ex. F, you must carry a

F
 $\begin{array}{r} 542 \\ +86 \\ \hline \end{array}$
- To get $\frac{1}{7}$ of a pie, we divide the pie into 7 parts.

(For Parts 2 and 3, go on to the next page.)

Do You Know?

Part 2

Do your work at the bottom of the page. Then write your answers at the end of the problems.

1. One pair of shoes costs \$7.50. A different pair costs \$0.85 less. How much does the second pair cost?

2. Joan has read 128 pages in her book. If there are 257 pages, how many more pages has she to read?

3. Sam spent \$5.00. Kay spent 89¢. How much more did Sam spend?

4. Julia rode 275 miles on an airplane and 38 miles on a bus. How many miles did she ride in all?

5. Julia took \$6.00 with her. She spent all but \$1.36. How much did she spend?

6. Two dresses are marked \$3.79 and \$4.55. How much will they both cost?

7. Joe has 180 stamps. 18 of them are green. How many are some other color?

Answers:

1. ----- 2. ----- 3. -----

4. ----- 5. ----- 6. ----- 7. -----

Part 3

Add or subtract. Work carefully.

1.
$$\begin{array}{r} 602 \\ - 578 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 35 \\ + 705 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 511 \\ - 148 \\ \hline \end{array}$$

10.
$$\begin{array}{r} 386 \\ + 403 \\ \hline \end{array}$$

12.
$$\begin{array}{r} 658 \\ - 109 \\ \hline \end{array}$$

14.
$$\begin{array}{r} \$0.75 \\ + 6.59 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 273 \\ - 254 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 807 \\ - 106 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 159 \\ - 72 \\ \hline \end{array}$$

11.
$$\begin{array}{r} 39\text{¢} \\ 72\text{¢} \\ 65\text{¢} \\ + 50\text{¢} \\ \hline \end{array}$$

13.
$$\begin{array}{r} 8 \\ 37 \\ 52 \\ + 9 \\ \hline \end{array}$$

15.
$$\begin{array}{r} \$0.42 \\ 0.05 \\ 0.08 \\ + 0.43 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 199 \\ + 435 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 572 \\ - 291 \\ \hline \end{array}$$

9.
$$\begin{array}{r} 800 \\ - 263 \\ \hline \end{array}$$

Work problems here.

Groups on the Little Train

1. How many cars have children in them?

---- How many children are there in
each car? ---- Are the groups of children
equal? -----

There is more than one way to find out how many children are riding in all.

You can count by 3's.

3, _____, _____

Or you can add 3's.

$$3 + 3 + 3 = \underline{\hspace{2cm}}$$

How many 3's did you add? _____

How many are three 3's? _ _ _ _ _

We can write the work this way:

Three 3's are 9

2. You can see 6 windows in each car. How many windows can you see in 2 cars?

There are 2 equal groups with ----
windows in each group. Are they groups
of like-things? -----

a. Count by 6's. 6, -----

b. Add 6's. $6 + 6 = \underline{\hspace{2cm}}$

c. How many are two 6's? _____

Two _____ are _____

3. Each car has 4 wheels. Three cars have how many wheels?

a. Count by 4's. 4, -----, -----

b. Add 4's. $4 + 4 + 4 = \text{-----}$

c. Finish: Three _____ are _____.

Working with Equal Groups



1. Which of the star pictures shows $4 + 4 = 8$? The new way to write the work is

2. Which shows $3 + 3 + 3 + 3 = 12$?
..... Write the work the new way.
.....

3. Which shows $2 + 2 + 2 + 2 = 8$?
..... Write the work the new way.
.....

4. Picture A shows the addition example
..... The new way to write the work is

5. Picture E shows the addition example
..... The new way to write the work is

6. Which picture shows three 4's?
Which shows four 2's?

G.	5	H.	4	I.	6	J.	2	K.	3
	5		4		$\begin{array}{r} + 6 \\ 12 \end{array}$		2		3
	$\begin{array}{r} + 5 \\ 15 \end{array}$		$\begin{array}{r} + 4 \\ 12 \end{array}$				$\begin{array}{r} + 2 \\ 8 \end{array}$		$\begin{array}{r} + 3 \\ 12 \end{array}$

Ex. G. Adding the three 5's is not the quickest way to find the total. It is better to know at once that three 5's = 15.

This is multiplying. The answer, 15, is called the product.

7. Write Ex. G to K as examples for multiplying. Write the products.

G. three = I.

H. J.

K.

8. Write Ex. a to d, below, as addition examples, with their sums.

a. two 4's

b. three 3's

c. four 2's

d. three 6's

To find how many in all, multiply instead of adding when groups or numbers are equal. Answers are called products.

Solving Problems by Multiplying

Write the products after the problems. In Ex. 1, you can add 5's or count by 5's if you need help.

You can find products for the other problems by adding or counting if you cannot write the answer at once.



1. To make 2 bunches of carrots with 5 carrots in each bunch, Ed needs how many carrots?

2. Ed put 4 cabbages in each of 3 boxes. To do this, he needed how many cabbages?

3. He sold 2 ears of corn to Mrs. Fox for 4¢ each. How much did Mrs. Fox pay for the corn?

4. Ann washed 5 pairs of socks. How many socks was that?

5. Ann has 3 dresses for each of her 4 dolls. That is how many doll dresses in all?

6. Three of Ann's dolls have 3 hats each. In all they have how many hats?

7. How much money does Sam need to buy 3 pencils at 5¢ each?

8. Mr. Hill planted 2 rows of trees with 6 trees in each row. How many trees did he plant in all?

9. Father put 2 stamps on each of 3 letters. He used how many stamps in all?

Add or Subtract. Watch the Signs!

	a	b	c	d	e	f	g	h
1.	$\begin{array}{r} 358 \\ + 537 \\ \hline \end{array}$	$\begin{array}{r} 980 \\ - 237 \\ \hline \end{array}$	$\begin{array}{r} 761 \\ - 39 \\ \hline \end{array}$	$\begin{array}{r} 324 \\ + 65 \\ \hline \end{array}$	$\begin{array}{r} 698 \\ - 398 \\ \hline \end{array}$	$\begin{array}{r} 582 \\ - 54 \\ \hline \end{array}$	$\begin{array}{r} \$5.37 \\ + 2.36 \\ \hline \end{array}$	$\begin{array}{r} \$5.00 \\ - 1.06 \\ \hline \end{array}$
2.	$\begin{array}{r} 694 \\ - 99 \\ \hline \end{array}$	$\begin{array}{r} 951 \\ - 522 \\ \hline \end{array}$	$\begin{array}{r} 579 \\ + 420 \\ \hline \end{array}$	$\begin{array}{r} 280 \\ - 173 \\ \hline \end{array}$	$\begin{array}{r} 481 \\ - 325 \\ \hline \end{array}$	$\begin{array}{r} 420 \\ + 257 \\ \hline \end{array}$	$\begin{array}{r} \$9.00 \\ - 7.23 \\ \hline \end{array}$	$\begin{array}{r} \$8.73 \\ - 3.57 \\ \hline \end{array}$
3.	$\begin{array}{r} 43 \\ 19 \\ 6 \\ + 62 \\ \hline \end{array}$	$\begin{array}{r} 50 \\ 11 \\ 27 \\ + 34 \\ \hline \end{array}$	$\begin{array}{r} 26 \\ 8 \\ 10 \\ + 75 \\ \hline \end{array}$	$\begin{array}{r} 18 \\ 70 \\ 24 \\ + 29 \\ \hline \end{array}$	$\begin{array}{r} 25¢ \\ 16¢ \\ 38¢ \\ + 9¢ \\ \hline \end{array}$	$\begin{array}{r} 38¢ \\ 5¢ \\ 18¢ \\ + 20¢ \\ \hline \end{array}$	$\begin{array}{r} \$0.16 \\ 0.28 \\ 0.26 \\ + 0.04 \\ \hline \end{array}$	$\begin{array}{r} \$0.67 \\ 0.03 \\ 0.04 \\ + 0.08 \\ \hline \end{array}$

Multiplication Facts for 2's



2 4

1. Count the shoes by 2's. Write the numbers on the lines under the picture.

We write multiplication (M.) facts in three ways. Box A shows the three ways. We read them all like this: Two 2's are 4.

The multiplication sign is \times . It means to multiply, just as $+$ means to add.

2. Finish boxes B to H. Write each M. fact three ways. Use the picture for help.

For box B, first find the sixth pair of shoes. Then look at the number you wrote under it. This is the product of six 2's.

Multiplication is a short way to add equal groups or equal numbers.

A

Two 2's = 4	2
	$\times 2$
	<u>4</u>

$2 \times 2 = 4$

B

Six 2's = ----	2
	$\times 6$
	<u> </u>

$6 \times 2 = \text{----}$

C

Four 2's = ----	2
	$\times 4$
	<u> </u>

$4 \times \text{----} = \text{----}$

D

Nine 2's = ----	2
	$\times 9$
	<u> </u>

$9 \times \text{----} = \text{----}$

E

Eight 2's = ----	2
	\times
	<u> </u>

$8 \times 2 = \text{----}$

F

Five 2's = ----	2
	\times
	<u> </u>

$5 \times \text{----} = \text{----}$

G

Seven 2's = ----	2
	$\times 7$
	<u> </u>

$7 \times \text{----} = \text{----}$

H

Three 2's = ----	2
	\times
	<u> </u>

$3 \times 2 = \text{----}$

3. Finish this table of M. facts for 2's.

Multiplication Facts for 2's

2	2	2	2	2	2	2	2	2
$\times 1$	$\times 2$	$\times 3$	$\times 4$	$\times 5$	$\times 6$	$\times 7$	$\times 8$	$\times 9$

Multiplying by 2



1. Box A shows what addition fact?

2. Box A shows a multiplication fact (M. fact), too. Write the M. fact three ways.

a. two ----- = -----

c. 5
× 2

b. $2 \times$ ----- = -----

3. In the same way, write the addition fact and the multiplication fact shown in each of boxes B, C, and D.

Write each M. fact three ways.

Box B. A. fact. -----

M. fact. two ----- = -----
7
× 2

$2 \times 7 =$ -----

Box C. A. fact. -----

M. fact. two ----- = -----
× 2

$2 \times$ ----- = -----

Box D. A. fact. -----

M. fact. two ----- = -----
× 2

$2 \times$ ----- = -----

E. 2	F. 3	G. 6	H. 8
<u>+ 2</u>	<u>+ 3</u>	<u>+ 6</u>	<u>+ 8</u>
4	6	12	16

4. Write the M. fact for each of Ex. E to H. Write it 3 ways.

E. two ----- = -----
2
× 2

$2 \times$ ----- = -----

F. two ----- = -----
× 2

$2 \times$ ----- = -----

G. ----- 6's = -----
6
× 2

----- $\times 6 =$ -----

H. ----- 8's = -----
8
×

----- \times ----- = -----

5. Write products to finish this table of M. facts for 2.

Multiplication Facts for 2

1	2	3	4	5	6	7	8	9
<u>× 2</u>	<u>× 2</u>	<u>× 2</u>	<u>× 2</u>	<u>× 2</u>	<u>× 2</u>	<u>× 2</u>	<u>× 2</u>	<u>× 2</u>

Most Multiplication Facts Go in Pairs

1. Box A has 2 rows of dots with 4 dots in each row, so it shows the M. fact $2 \times 4 = 8$.



Box A has 4 columns with 2 dots in each column, so it shows the M. fact $4 \times ______ = ______$.

$2 \times 4 = 8$ and $4 \times 2 = 8$ make a pair of multiplication facts.

2. The pair of M. facts for box B is:



a. Rows: $6 \times 2 = ______$

b. Columns: $2 \times ______ = ______$

3. The pair of multiplication facts for box C is $______$ and $______$.



4. Write the products. Then write the other M. fact in each pair, as in Ex. a.

a. $4 \times 2 = 8$ $2 \times 4 = 8$

b. $2 \times 6 = ______$ $6 \times ______ = ______$

c. $7 \times 2 = ______$ $2 \times ______ = ______$

d. $2 \times 5 = ______$ $______ \times ______ = ______$

e. $2 \times 8 = ______$ $______ \times ______ = ______$

f. $9 \times 2 = ______$ $______ \times ______ = ______$

g. $2 \times 1 = ______$ $______ \times ______ = ______$

h. $2 \times 7 = ______$ $______ \times ______ = ______$

i. $3 \times 2 = ______$ $______ \times ______ = ______$

j. $2 \times 9 = ______$ $______ \times ______ = ______$

k. $8 \times 2 = ______$ $______ \times ______ = ______$

5. Has $2 \times 2 = 4$ another M. fact to make a pair? $______$

Multiplication facts almost always go in pairs.

Practice on Multiplication Facts

You should know M. facts as well as you know A. facts and S. facts. Write the missing numbers in these M. facts.

1. $______ \times 2 = 10$

4. $2 \times ______ = 8$

2. $2 \times ______ = 16$

5. $8 \times 2 = ______$

3. $3 \times 2 = ______$

6. $2 \times ______ = 12$

7. $9 \times 2 = ______$

12. $______ \times 2 = 12$

8. $4 \times ______ = 8$

13. $2 \times ______ = 10$

9. $7 \times ______ = 14$

14. $2 \times 7 = ______$

10. $______ \times 2 = 8$

15. $2 \times ______ = 18$

11. $2 \times 3 = ______$

16. $2 \times ______ = 4$

Add or Multiply?

To find how many in all, we must add when the groups or numbers we put together are not equal. We may multiply instead of adding when the groups are equal.

Draw a ring around "A." if you must add to find the answer. Draw a ring around "M." if you can multiply.

1. One car carried 4 men. Another car carried 3. How many men rode in the 2 cars? A. M.

2. Four people rode in each of 2 boats. The boats held how many people in all? A. M.

3. A box holds 6 eggs. Two boxes of this kind will hold how many eggs? A. M.

4. To make one kind of cake, Mother uses 2 eggs. To make another kind, she uses 4 eggs. If she made both kinds one day, how many eggs did she use? A. M.

5. How much must you pay for a 3¢ stamp, a 6¢ stamp, and a 12¢ stamp? A. M.

6. How much must you pay for six 2¢ stamps? A. M.

7. Ellen, Mary, and Edith each cut out 2 paper dolls. How many paper dolls did they cut out in all? A. M.

8. Ann cut out 8 paper dolls, and Sue cut out 6. Together they cut out how many paper dolls? A. M.

Now work Ex. 1 to 8 on another piece of paper. Write the answers in the box under the pictures.

Add or Subtract. Watch the Signs!

	a	b	c	d	e	f
1.	$\begin{array}{r} 706 \\ -85 \\ \hline \end{array}$	$\begin{array}{r} 300 \\ +200 \\ \hline \end{array}$	$\begin{array}{r} 875 \\ -535 \\ \hline \end{array}$	$\begin{array}{r} 86 \\ +69 \\ \hline \end{array}$	$\begin{array}{r} 900 \\ -461 \\ \hline \end{array}$	$\begin{array}{r} \$1.30 \\ -0.78 \\ \hline \end{array}$
2.	$\begin{array}{r} 800 \\ -600 \\ \hline \end{array}$	$\begin{array}{r} 348 \\ +89 \\ \hline \end{array}$	$\begin{array}{r} 638 \\ -432 \\ \hline \end{array}$	$\begin{array}{r} 83 \\ -49 \\ \hline \end{array}$	$\begin{array}{r} 306 \\ +593 \\ \hline \end{array}$	$\begin{array}{r} \$4.00 \\ +2.50 \\ \hline \end{array}$

Answers for Ex. 1 to 8

1. ____ 2. ____ 3. ____
 4. ____ 5. ____ 6. ____
 7. ____ 8. ____

Making Change



1. Look at Ex. a below. Bread cost 18¢, and Sue gave the clerk 25¢. Her change is shown in picture A. When the clerk gave it to Sue, he first said "18¢," the cost. Then he said, "19, 20, 25." Is the change correct? If it is, write "Yes" in the last column for Ex. a. If it is not, write "No" in the last column.



2. The dress in Ex. b cost 17¢, and Sue gave the clerk 50¢. Use the coins in picture B to find out if the change is correct. Start with 17¢, the cost, then *think*, "18, 19, 20, 30, 40." Is the change correct? If it is, write "Yes" in the last column for Ex. b. If it is not, write "No" in the last column.

3. For each of Ex. c to i, write "Yes" in the last column if the change is correct with the fewest coins. Write "No" if it is not correct.

Thing Bought	Cost	Paid	Change (with the fewest coins)					Correct?
			Cents	Nickels	Dimes	Quarters	Half Dollars	
a. Bread	18¢	25¢	2	1				
b. Doll dress	17¢	50¢	3		2			
c. Lettuce	13¢	25¢	2		1			
d. Ball	69¢	\$1.00	1	2		1		
e. Apples	10¢	50¢		1	1	1		
f. Game	37¢	\$1.00	3		1		1	
g. 1 lb. fish	88¢	\$1.00	2		1			
h. Pair of socks	52¢	75¢	8			1		
i. Book	47¢	\$1.00	2			1		

4. Study the examples where you wrote "No." Cross out wrong numbers and make these examples show the correct change.

Can You Tell?

Write the products.

	a	b	c	d	e	f	g	h	i	j
1.	3	2	2	8	1	2	5	6	2	2
	$\times 2$	$\times 9$	$\times 4$	$\times 2$	$\times 2$	$\times 7$	$\times 2$	$\times 2$	$\times 8$	$\times 2$

Add or subtract. Check your work.

	a	b	c	d	e	f	g	h
2.	493	711	504	493	910	469	\$7.00	\$2.47
	$+ 308$	$- 58$	$+ 298$	$- 155$	$- 256$	$- 265$	$- 0.68$	$+ 6.02$

Harder Column Addition

1.	7	2.	8	3.	38¢	4.	408	5.	\$1.65	6.	38¢
	9		6		4¢		78		0.46		9¢
	6		4		9¢		$+ 356$		2.08		56¢
	0		8		6¢				$+ 0.76$		25¢
	$+ 8$		$+ 9$		$+ 7¢$						$+ 36¢$
	30		35								164¢, or

Ex. 1. *Think*, "16, 22, 30." Write,

.....

Ex. 2. *Think*, "14,,,

....." Write,

Ex. 3. Add. Write the sum under the example.

Ex. 4. Add the columns. Do you carry

any tens? any hundreds?

..... Write the sum.

Ex. 5. Add. Write the sum.

Ex. 6. Is the sum correct?
Write it with the \$ sign.

Add in row 7. Check by doing the work again.

	a	b	c	d	e	f	g	h
7.	8	5	48¢	37	377	\$2.82	\$2.72	\$2.59
	3	8	4¢	665	49	0.03	4.94	1.78
	2	7	8¢	115	$+ 465$	$+ 0.74$	0.71	$+ 0.37$
	9	9	5¢	$+ 146$			$+ 0.93$	
	$+ 9$	$+ 7$	$+ 9¢$					

Multiplication Facts for 3's



1. Each set of lights in the picture has 3 bulbs. Count the bulbs by 3's. Write the numbers on the lines under the picture.

2. Find how many bulbs are needed for the sets of lights in Ex. a to i. Use the picture and the numbers you wrote under it. For Ex. a, first find the third set of lights. The number under it tells you how many three 3's are.

a. 3 sets. $3 \times 3 = \underline{\hspace{2cm}}$

b. 5 sets. $5 \times 3 = \underline{\hspace{2cm}}$

c. 8 sets. $8 \times 3 = \underline{\hspace{2cm}}$

d. 6 sets. $6 \times 3 = \underline{\hspace{2cm}}$

e. 4 sets. $4 \times 3 = \underline{\hspace{2cm}}$

f. 7 sets. $7 \times 3 = \underline{\hspace{2cm}}$

g. 1 set. $1 \times 3 = \underline{\hspace{2cm}}$

h. 9 sets. $9 \times 3 = \underline{\hspace{2cm}}$

i. 2 sets. $2 \times 3 = \underline{\hspace{2cm}}$

3. To find products, count by 3's or add 3's. Write each M. fact three ways.

a. $\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$ five 3's = $\underline{\hspace{2cm}}$ $5 \times 3 = \underline{\hspace{2cm}}$

b. $\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$ seven $\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$ $7 \times 3 = \underline{\hspace{2cm}}$

c. $\begin{array}{r} 3 \\ \times \\ \hline \end{array}$ $4 \times 3 = \underline{\hspace{2cm}}$ four 3's = $\underline{\hspace{2cm}}$

d. $\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$ $\underline{\hspace{2cm}} \times 3 = \underline{\hspace{2cm}}$ eight 3's = $\underline{\hspace{2cm}}$

e. $\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$ $\underline{\hspace{2cm}} 3\text{'s} = \underline{\hspace{2cm}}$ $6 \times 3 = \underline{\hspace{2cm}}$

f. $\begin{array}{r} 3 \\ \times \\ \hline \end{array}$ three 3's = $\underline{\hspace{2cm}}$ $3 \times 3 = \underline{\hspace{2cm}}$

g. $\begin{array}{r} 3 \\ \times \\ \hline \end{array}$ $9 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$ nine 3's = $\underline{\hspace{2cm}}$

4. Finish the facts in the table. Then learn them.

Multiplication Facts for 3's

3	3	3	3	3	3	3	3	3
$\times 1$	$\times 2$	$\times 3$	$\times 4$	$\times 5$	$\times 6$	$\times 7$	$\times 8$	$\times 9$

Multiplying by 3

a	b	c	d	e	f
6	9	7	5	8	4
6	9	7	5	8	4
$\begin{array}{r} +6 \\ 18 \end{array}$	$\begin{array}{r} +9 \\ 27 \end{array}$	$\begin{array}{r} +7 \\ 21 \end{array}$	$\begin{array}{r} +5 \\ 15 \end{array}$	$\begin{array}{r} +8 \\ 24 \end{array}$	$\begin{array}{r} +4 \\ 12 \end{array}$

1. Write Ex. a to f as M. facts.

a. $3 \times 6 = \dots$ d. \dots

b. $3 \times \dots = \dots$ e. \dots

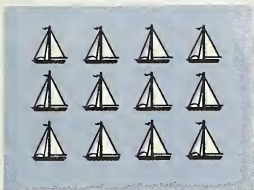
c. $\dots \times 7 = \dots$ f. \dots



2. The tree picture shows a pair of M. facts.

Rows: $5 \times \dots = \dots$

Columns: $3 \times 5 = \dots$



3. The boat picture shows a pair of M. facts.

Rows: \dots

Columns: \dots

4. Make a dot picture for $3 \times 7 = 21$.

The other M. fact is \dots

Most M. facts go in pairs. If you know one fact in the pair, this will help you find the other fact.

5. Write the other M. fact to make a pair.

a. $3 \times 4 = 12$ $4 \times \dots = \dots$

b. $3 \times 6 = \dots$ $6 \times \dots = \dots$

c. $3 \times 8 = \dots$ \dots

d. $3 \times 2 = \dots$ \dots

e. $3 \times 7 = \dots$ \dots

f. $3 \times 1 = \dots$ \dots

g. $3 \times 9 = \dots$ \dots

h. $3 \times 5 = \dots$ \dots

6. $3 + 3 + 3 = 9$, so $3 \times 3 = \dots$

7. Cross out the wrong products.

6	2	7	5	9	8
$\begin{array}{r} \times 3 \\ 15 \end{array}$	$\begin{array}{r} \times 3 \\ 6 \end{array}$	$\begin{array}{r} \times 3 \\ 24 \end{array}$	$\begin{array}{r} \times 3 \\ 15 \end{array}$	$\begin{array}{r} \times 3 \\ 27 \end{array}$	$\begin{array}{r} \times 3 \\ 24 \end{array}$

8. Write the products.

4	8	9	3	6	7
$\begin{array}{r} \times 3 \\ \hline \end{array}$	$\begin{array}{r} \times 3 \\ \hline \end{array}$	$\begin{array}{r} \times 3 \\ \hline \end{array}$	$\begin{array}{r} \times 3 \\ \hline \end{array}$	$\begin{array}{r} \times 3 \\ \hline \end{array}$	$\begin{array}{r} \times 3 \\ \hline \end{array}$

9. Finish the table of M. facts below.

Multiplication Facts for 3

1	2	3	4	5	6	7	8	9
$\begin{array}{r} \times 3 \\ \hline \end{array}$	$\begin{array}{r} \times 3 \\ \hline \end{array}$	$\begin{array}{r} \times 3 \\ \hline \end{array}$	$\begin{array}{r} \times 3 \\ \hline \end{array}$	$\begin{array}{r} \times 3 \\ \hline \end{array}$	$\begin{array}{r} \times 3 \\ \hline \end{array}$	$\begin{array}{r} \times 3 \\ \hline \end{array}$	$\begin{array}{r} \times 3 \\ \hline \end{array}$	$\begin{array}{r} \times 3 \\ \hline \end{array}$

Multiplying 1's

1. $1 + 1 + 1 + 1 + 1 = \dots$

2. Write Ex. 1 as a M. fact.

3. $1 + 1 + 1 + 1 + 1 + 1 + 1 = \dots$

M. fact: -----

4. $1 + 1 + 1 + 1 = \dots$

M. fact: -----

1 multiplied by any number is that number.

5. four 1's = ----- 8. nine 1's = -----

6. $6 \times 1 = \dots$ 9. five 1's = -----

7. $2 \times 1 = \dots$ 10. $7 \times 1 = \dots$

11. $\begin{array}{r} 1 \\ \times 8 \\ \hline \end{array}$ 12. $\begin{array}{r} 1 \\ \times 3 \\ \hline \end{array}$ 13. $\begin{array}{r} 1 \\ \times 1 \\ \hline \end{array}$

Can You Tell?

Part 1

Write the products. Then copy the facts that are hard for you and study them over and over again.

	a	b	c	d	e	f	g	h	i	j
1.	$\begin{array}{r} 7 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 1 \\ \hline \end{array}$
2.	$\begin{array}{r} 2 \\ \times 1 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$
3.	$\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$

Part 2

1. To have $\frac{1}{10}$ of a melon, the melon must be cut into ----- equal parts.

2. Beside each picture write the fraction shown by the blue part.



3. Does this picture show fifths? -----



4. $5 \times 4 = 20$. Write the other M. fact that goes with this to make a pair.

A	B	C	D
---	---	---	---

5. Write an example in which

- the answer is a product (box A).
- the answer is a difference (box B).
- you carry a ten and a hundred (box C).
- you borrow a hundred (box D).

6. $7 + 7 + 7 + 7 + 7 = 35$. Write as a

multiplication fact:

7. In a pound there are ounces.

8. In one day there are hours.

9. The short way to write "inches" is

.....

More about Fractions

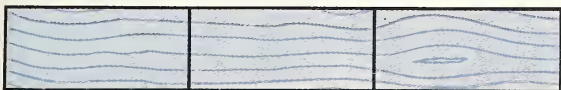
1. The cake is divided into equal



parts. Each part is one

.....

Written as a fraction, it is



2. The board is cut into equal

parts. Each part is one, or $\frac{1}{3}$.

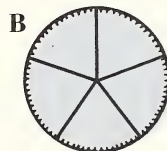
The 3 in $\frac{1}{3}$ tells us that there are

equal parts.

3. The in $\frac{1}{9}$ tells us that something has been divided into 9 equal parts.

4. To show that a whole thing has been divided into 8 equal parts, we write under the fraction line.

The number under the line in a fraction tells how many equal parts are in the whole.



5. Both pies above are cut into fifths.

Is $\frac{1}{5}$ of pie A equal to $\frac{1}{5}$ of pie B?



6. Is $\frac{1}{6}$ of square C the same size as $\frac{1}{6}$ of square D?

7. Is $\frac{1}{2}$ of a blueberry the same size as $\frac{1}{2}$ of an orange?

8. Does $\frac{1}{4}$ of an inch equal $\frac{1}{4}$ of a foot?

.....

Some halves are large, others are small. Some thirds are large, others are small, and so on.

Halves of the same whole are equal. Thirds of the same whole are equal, and so on.

Time for Practice!

Add or subtract as the signs tell you.

a	b	c	d	e	f	g	h
1. $\begin{array}{r} 397 \\ -194 \\ \hline \end{array}$	$\begin{array}{r} 456 \\ -184 \\ \hline \end{array}$	$\begin{array}{r} 477 \\ -295 \\ \hline \end{array}$	$\begin{array}{r} 239 \\ +760 \\ \hline \end{array}$	$\begin{array}{r} \$8.00 \\ -3.11 \\ \hline \end{array}$	$\begin{array}{r} \$3.59 \\ -2.67 \\ \hline \end{array}$	$\begin{array}{r} \$0.58 \\ +6.50 \\ \hline \end{array}$	$\begin{array}{r} \$5.32 \\ -3.87 \\ \hline \end{array}$
2. $\begin{array}{r} 453 \\ -189 \\ \hline \end{array}$	$\begin{array}{r} 89\text{¢} \\ -75\text{¢} \\ \hline \end{array}$	$\begin{array}{r} 324 \\ +89 \\ \hline \end{array}$	$\begin{array}{r} 65\text{¢} \\ -37\text{¢} \\ \hline \end{array}$	$\begin{array}{r} 347 \\ -169 \\ \hline \end{array}$	$\begin{array}{r} 782 \\ -203 \\ \hline \end{array}$	$\begin{array}{r} 700 \\ -83 \\ \hline \end{array}$	$\begin{array}{r} 20\text{¢} \\ +70\text{¢} \\ \hline \end{array}$
3. $\begin{array}{r} 644 \\ -277 \\ \hline \end{array}$	$\begin{array}{r} 497 \\ +26 \\ \hline \end{array}$	$\begin{array}{r} 394 \\ +230 \\ \hline \end{array}$	$\begin{array}{r} 600 \\ -365 \\ \hline \end{array}$	$\begin{array}{r} 26\text{¢} \\ 40\text{¢} \\ 18\text{¢} \\ +6\text{¢} \\ \hline \end{array}$	$\begin{array}{r} \$0.52 \\ 3.48 \\ 0.77 \\ +4.86 \\ \hline \end{array}$	$\begin{array}{r} \$0.06 \\ 2.17 \\ 2.90 \\ +0.84 \\ \hline \end{array}$	$\begin{array}{r} 38\text{¢} \\ 8\text{¢} \\ 9\text{¢} \\ +25\text{¢} \\ \hline \end{array}$

Multiplying Tens (10's)



B

$$\begin{array}{r} 10 \\ 10 \\ 10 \\ +10 \\ \hline \end{array}$$

1. Count the dots by 10's.

-----, -----, -----, -----

2. Add tens (box B).

3. You have equal numbers (10's), so you can multiply.

For box C, *think*, "4 times 1 ten are 4 tens, or 40." Write the product in box C.

C

$$\begin{array}{r} 10 \\ \times 4 \\ \hline \end{array}$$

You multiply tens like ones.

4. Write the products.

a	b	c	d	e
$\begin{array}{r} 10 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ \times 5 \\ \hline \end{array}$

5. Box D. 40 means 4 tens.

So you can *think*, " 2×4 tens = ---- tens, or -----."

D

$$\begin{array}{r} 40 \\ \times 2 \\ \hline \end{array}$$

Write the product in box D.

6. For the sign \times we say, -----

7. Cross out the wrong products.

$\begin{array}{r} 20 \\ \times 3 \\ \hline 60 \end{array}$	$\begin{array}{r} 10 \\ \times 6 \\ \hline 16 \end{array}$	$\begin{array}{r} 30 \\ \times 3 \\ \hline 9 \end{array}$	$\begin{array}{r} 40 \\ \times 2 \\ \hline 80 \end{array}$	$\begin{array}{r} 30 \\ \times 2 \\ \hline 32 \end{array}$
--	--	---	--	--

Write the products for rows 8 and 9.

a	b	c	d	e
8. $\begin{array}{r} 10 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 30 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 20 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 20 \\ \times 4 \\ \hline \end{array}$
9. $\begin{array}{r} 40 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 20 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 30 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ \times 8 \\ \hline \end{array}$

Multiplying Two-Place Numbers



1. Andy said there were 3 dozen balloons for the school party. How many is that? (1 dozen = 12.) $3 \times 12 = ?$

a. You can add 12's, as in box A.

b. Are the balloons groups of like-things?

A
12
12
<u>+ 12</u>
36

Are the groups equal?

Could you multiply instead of adding?

c. $12 = 10 + 2$. You can multiply and then add, as in boxes B, C, and D.

B	C	D
$\begin{array}{r} 2 \\ \times 3 \\ \hline 6 \end{array}$	$\begin{array}{r} 10 \\ \times 3 \\ \hline 30 \end{array}$	$\begin{array}{r} 6 \\ + 30 \\ \hline 36 \end{array}$

In box B, you find three 2's.

In box C, you find three 10's.

In box D, you add the two products.

$$3 \times 12 = \dots\dots$$

2. $2 \times 34 = ?$

a. In box E, add 34's to find the answer.

b. $34 = 30 + 4$. You can multiply and then add.

E

Finish the work in boxes F, G, and H.

F	G	H
$\begin{array}{r} 4 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 30 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} + \\ \hline \end{array}$

3. There is a short way to find the product of 2×34 . See box I.

Multiply ones, 2×4 .

Write the product, 8, in

..... place.

Multiply tens, 2×3 .

Write the product,, in ten's place.

I								
<table> <tr> <td>Tens</td> <td>Ones</td> </tr> <tr> <td>3</td> <td>4</td> </tr> <tr> <td>\times</td> <td>2</td> </tr> <tr> <td colspan="2"><hr/></td> </tr> </table>	Tens	Ones	3	4	\times	2	<hr/>	
Tens	Ones							
3	4							
\times	2							
<hr/>								

Cross out wrong figures in the products.

a	b	c	d	e
4. $\begin{array}{r} 32 \\ \times 2 \\ \hline 64 \end{array}$	$\begin{array}{r} 13 \\ \times 3 \\ \hline 16 \end{array}$	$\begin{array}{r} 42 \\ \times 2 \\ \hline 44 \end{array}$	$\begin{array}{r} 12 \\ \times 4 \\ \hline 48 \end{array}$	$\begin{array}{r} 24 \\ \times 2 \\ \hline 28 \end{array}$

Multiply the short way.

5. $\begin{array}{r} 21 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 22 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 31 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 23 \\ \times 3 \\ \hline \end{array}$
6. $\begin{array}{r} 32 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 43 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 21 \\ \times 4 \\ \hline \end{array}$

Multiplication Examples with Three-Place Products

1. The swimming pool is 64 feet long. If Bob swims from one end to the other and then back again, how many feet does he swim in all? $2 \times 64 = ?$ Look at box A.

A Multiply ones. $2 \times 4 = \dots$

64

$\times 2$

128

Multiply tens. $2 \times 6 = \dots$

12 tens = 1 hundred and 2 tens.

Write "2" in _____ place and

_____ in hundred's place in the product.

$$2 \times 64 \text{ ft.} = 128 \text{ ft.}$$

$$2. \quad 2 \times 52\text{¢} = ?$$

Box B. Is \$1.04 the same

as 104¢? _____

When money numbers

are written with the \$ sign, cents take

_____ places.

Cross out wrong figures in the products.

3. 74	43	81	32	63
$\times 2$	$\times 3$	$\times 3$	$\times 4$	$\times 2$
<u>148</u>	<u>126</u>	<u>253</u>	<u>128</u>	<u>65</u>

Write the products. To check, multiply again.

a	b	c	d	e	f	g	h
4. 42	84	63	72	54	31	51	73¢
$\times 3$	$\times 2$	$\times 3$	$\times 2$	$\times 2$	$\times 4$	$\times 3$	$\times 2$
							¢, or \$ _____
5. 71	91	62	93	94	82	62	73¢
$\times 3$	$\times 2$	$\times 3$	$\times 3$	$\times 2$	$\times 3$	$\times 2$	$\times 3$
							¢, or \$ _____

Time for Practice!

Do what the signs tell you to do. Be careful!

a	b	c	d	e	f	g	h
1. 395	81	651	502	21	72	800	32¢
$- 109$	$\times 3$	$- 276$	$+ 398$	$\times 4$	$\times 3$	$- 275$	$\times 2$
2. 105	38	29	325	229	17	\$3.06	27¢
67	46	169	50	130	63	0.77	9¢
$+ 432$	14	89	8	$+ 357$	91	$+ 4.23$	43¢
	$+ 79$	$+ 208$	$+ 327$		$+ 78$		$+ 10\text{¢}$

Do You Know?

Part 1

1. Write two M. facts for this dot picture.



2. $6 + 6 + 6 + 6 = 24$. Write this as a M. fact: -----

3. You can multiply to find the total of ----- groups or numbers.

4. $5 \times 20 = \text{----}$ 5. $15 \times 1 = \text{----}$

6. $n - 9 = 83$. $n = \text{-----}$

7. Halves are equal only when they are parts of ----- wholes.

8. The fraction $\frac{1}{7}$ means that a whole has been divided into ---- equal parts.

9. In multiplication, answers are called -----

Part 2

Do your work for these problems on another piece of paper. Write your answers in the box after problem 7.

1. Ann bought 4 games for gifts. Each cost 32¢. How much did the 4 cost?

2. Julia spent \$1.15 for gifts. What was her change from \$2.00?

3. Ruth spent 89¢ for gifts. How much less than Julia's \$1.15 was that?

4. Ellen paid 38¢, 29¢, and 32¢ for gifts. These gifts cost how much in all?

5. Joan spent 72¢ for each of 2 gifts. How much did she pay for them both?

6. After buying gifts, Sue had 35¢ left from her \$2.25. How much had she spent?

7. How much did Mary pay for 3 books, each selling for \$0.42?

Answers: 1. ----- 2. ----- 3. -----

4. ----- 5. ----- 6. ----- 7. -----

Part 3

Add, subtract, or multiply. Watch the signs.

a	b	c	d	e	f	g	h
1. $\begin{array}{r} 573 \\ -108 \\ \hline \end{array}$	$\begin{array}{r} 84 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 352 \\ +607 \\ \hline \end{array}$	$\begin{array}{r} 600 \\ -93 \\ \hline \end{array}$	$\begin{array}{r} 92 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 83 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} \$8.74 \\ -2.77 \\ \hline \end{array}$	$\begin{array}{r} \$2.84 \\ +0.76 \\ \hline \end{array}$
2. $\begin{array}{r} 62 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 511 \\ -473 \\ \hline \end{array}$	$\begin{array}{r} 306 \\ +395 \\ \hline \end{array}$	$\begin{array}{r} 32 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 628 \\ -85 \\ \hline \end{array}$	$\begin{array}{r} 41 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} \$0.87 \\ +4.36 \\ \hline \end{array}$	$\begin{array}{r} 34\text{¢} \\ \times 2 \\ \hline \end{array}$



A

$$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$$

B

$$\begin{array}{r} 10 \\ \times 7 \\ \hline \end{array}$$

C

$$\begin{array}{r} 14 \\ + 70 \\ \hline \end{array}$$

(product in A) (product in B)

D

	Tens	Ones
	1	2
$\times 7$		
	8	4

E

$$\begin{array}{r} 49 \\ \times 3 \\ \hline \end{array}$$

F

$$\begin{array}{r} 49 \\ \times 3 \\ \hline 187 \\ \text{(Wrong)} \end{array}$$

G

$$\begin{array}{r} 67¢ \\ \times 2 \\ \hline 134¢, \text{ or } \$1.34 \end{array}$$

Carrying Tens in Multiplication

1. Jane and her mother are going to make 7 dozen cookies for the school fair. How many cookies are 7 dozen?
 $7 \times 12 = ?$

$12 = 10 + 2$, or $2 + 10$. We can multiply 7×2 and 7×10 and add the products. Finish boxes A, B, and C.

Box D shows the short way to find 7×12 . Multiply ones, then tens. The new thing is that you carry a ten.

Ones: $7 \times 2 = 14$. $14 = 1$ ten and 4 ones. Write "4" in _____ place. Remember (carry) 1 ten.

Tens: $7 \times 1 = 7$. Add the 1 ten carried. $7 + 1 = 8$. Write "8" in _____ place. $7 \times 12 = \dots$

If the product of the ones is a two-place number, you carry one ten or more.

2. $3 \times 49 = ?$ Box E. Ones: *Think*, " $3 \times 9 = 27$."

Write "7" in _____ place; carry 2 _____.

Tens: *Think*, " $3 \times 4 = \dots$ ", and 2 tens carried are 14." 14 tens = 1 hundred and 4 tens. Write "4" in ten's place in the product, and "1" in hundred's place.

Add the carried ten or tens after you multiply tens, not before. Box F shows that adding the carried tens too soon gives the wrong answer.

3. Is there anything new in box G? _____

4. Cross out wrong figures in the products.

$\begin{array}{r} 75 \\ \times 3 \\ \hline 215 \end{array}$	$\begin{array}{r} 32 \\ \times 7 \\ \hline 214 \end{array}$	$\begin{array}{r} 45 \\ \times 3 \\ \hline 135 \end{array}$	$\begin{array}{r} 23 \\ \times 8 \\ \hline 164 \end{array}$	$\begin{array}{r} 45¢ \\ \times 2 \\ \hline 90¢ \end{array}$	$\begin{array}{r} 13¢ \\ \times 4 \\ \hline 42¢ \end{array}$
---	---	---	---	--	--

5. Find the products. Multiply again to check.

a	b	c	d	e	f	g	h
$\begin{array}{r} 69 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 71 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 32 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 28 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 23 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 32 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 54¢ \\ \times 3 \\ \hline \end{array}$

Practice in Multiplying

a	b	c	d	e	f	g	h	i
1. 13	23	56	39	26	32	48	23 ¢	65 ¢
$\times 7$	$\times 4$	$\times 2$	$\times 3$	$\times 2$	$\times 9$	$\times 3$	$\times 2$	$\times 3$
								, or \$-----
2. 91	75	47	23	12	31	85	29 ¢	79 ¢
$\times 2$	$\times 2$	$\times 3$	$\times 6$	$\times 4$	$\times 8$	$\times 3$	$\times 2$	$\times 3$
								, or \$-----

Measuring Liquids



1. Sometimes we measure liquids, things like water and milk. In the pictures, find the four measures we use for liquids. Write their names on the lines.

Use the pictures to help you finish Ex. 2 to 6.

2. cups = 1 pint

3. 1 gallon = quarts

4. pints = 1 quart

5. c. = $\frac{1}{2}$ pt.

6. qt. = 1 gal.

7. Put \checkmark after the things we measure with liquid measure.

sugar juice vinegar

paint wood gasoline

If Ex. 8 is correct, put \checkmark before it. If it is not, put X before it. Do the same for Ex. 9 to 12.

... 8. At the filling station, Mr. Brown bought 2 cups of gasoline for his car.

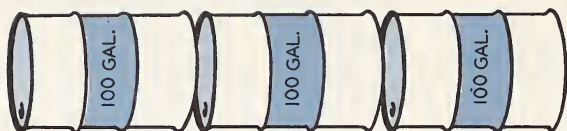
... 9. Tom drinks 1 pint of milk at lunch.

... 10. To make dressing for lettuce, Ann uses 1 gallon of vinegar.

... 11. A gallon jar of water will just fill 4 quart bottles.

... 12. There is just as much in a quart of milk as in a quart of paint.

Multiplying Three-Place Numbers



1. Each drum in the picture holds 100 gallons of airplane gasoline. The 3 drums hold how many gallons?

- Count by 100's. 100, _____, _____.
- Add 100's in box A.

A	B
$\begin{array}{r} 100 \\ 100 \\ + 100 \\ \hline \end{array}$	$\begin{array}{r} 100 \\ \times 3 \\ \hline 300 \end{array}$

c. Multiply. Look at box B. *Think*, "3 \times 1 hundred = ___ hundreds, or _____."

The 3 in the product is in _____ place.

You multiply hundreds like ones.

Write the products in Ex. 2 to 5.

- $$\begin{array}{r} 100 \\ \times 6 \\ \hline \end{array}$$
- $$\begin{array}{r} 200 \\ \times 4 \\ \hline \end{array}$$
- $$\begin{array}{r} 200 \\ \times 2 \\ \hline \end{array}$$
- $$\begin{array}{r} 300 \\ \times 3 \\ \hline \end{array}$$

6. $2 \times 423 = ?$ $423 = 4$ hundreds and 2 tens and 3 ones. Finish boxes C to F. Remember you multiply ones first, then tens, then hundreds.

C	D	E	F
$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 20 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 400 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ 40 \\ + 800 \\ \hline \end{array}$

7. Box G shows the short way to find the product of 2×423 .

First we multiply ones, then _____, then _____.

G												
<table><tr><td>Hundreds</td><td>Tens</td><td>Ones</td></tr><tr><td>4</td><td>2</td><td>3</td></tr><tr><td>\times</td><td></td><td>2</td></tr><tr><td>8</td><td>4</td><td>6</td></tr></table>	Hundreds	Tens	Ones	4	2	3	\times		2	8	4	6
Hundreds	Tens	Ones										
4	2	3										
\times		2										
8	4	6										

We write the product figures in their right places.

8. $3 \times 217 = ?$

Multiply the short way in box H. Must you carry 2 tens? _____

H
$\begin{array}{r} 217 \\ \times 3 \\ \hline \end{array}$

9. $3 \times \$3.25 = ?$

Must you carry in box I? _____

I
$\begin{array}{r} \$3.25 \\ \times 3 \\ \hline \$9.75 \end{array}$

10. Cross out wrong product figures.

$\begin{array}{r} 443 \\ \times 2 \\ \hline 446 \end{array}$	$\begin{array}{r} 317 \\ \times 3 \\ \hline 931 \end{array}$	$\begin{array}{r} 223 \\ \times 4 \\ \hline 892 \end{array}$	$\begin{array}{r} \$1.49 \\ \times 2 \\ \hline \$2.88 \end{array}$
--	--	--	--

Multiply. To check, multiply again.

a	b	c	d
$\begin{array}{r} 214 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 413 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 128 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} \$4.36 \\ \times 2 \\ \hline \end{array}$
$\begin{array}{r} 213 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 447 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 112 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} \$2.19 \\ \times 3 \\ \hline \end{array}$
$\begin{array}{r} 112 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 328 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 417 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} \$1.14 \\ \times 2 \\ \hline \end{array}$

Multiplying by the Smaller Number

1. Are the products the same in boxes

A and B?

A	B
$\begin{array}{r} 3 \\ \times 4 \\ \hline 12 \end{array}$	$\begin{array}{r} 4 \\ \times 3 \\ \hline 12 \end{array}$

2. Does changing the numbers around change the product?

.....

3. In boxes C and D,

are the numbers that

C	D
$\begin{array}{r} 3 \\ \times 23 \\ \hline 69 \end{array}$	$\begin{array}{r} 23 \\ \times 3 \\ \hline 69 \end{array}$

are multiplied the same?

Are the numbers changed around in

box D? Is the product

the same? Is it easier to

multiply by the smaller number?

Copy Ex. 4 to 17 and multiply. Change numbers around if you need to, so that you will multiply by the smaller one. Ex. 4 and 5 are started for you.

4. 4×213

$$\begin{array}{r} 213 \\ \times 4 \\ \hline \end{array}$$

5. 113×6

$$\begin{array}{r} 113 \\ \times 6 \\ \hline \end{array}$$

6. 78×2

7. 228×2

8. 3×96

9. 224×3

10. 32×6

11. 319×3

12. 23×9

13. 2×69

14. 325×3

15. 8×32

16. 89×2

17. 218×3

Time for Practice!

Watch the signs carefully when you work these examples.

a	b	c	d	e	f	g	h
800	328	458	873	114	165	\$0.59	\$6.11
$\underline{-169}$	$\underline{\times 3}$	$\underline{+270}$	$\underline{-370}$	$\underline{\times 3}$	$\underline{-78}$	$\underline{\times 2}$	$\underline{-5.08}$

Multiplication Facts for 0



1. How many doll dresses has Jane put on the 3 lines? $0 + 0 + 0 = \dots$

Three 0's = \dots

2. $0 + 0 + 0 + 0 = \dots$

Four 0's = \dots

0 multiplied by any number gives 0.

3. Six 0's = \dots

5. Five 0's = \dots

4. Nine 0's = \dots

6. Eight 0's = \dots

Write the products for Ex. 7 to 10.

7. $\begin{array}{r} 0 \\ \times 5 \\ \hline \end{array}$

8. $\begin{array}{r} 0 \\ \times 2 \\ \hline \end{array}$

9. $\begin{array}{r} 0 \\ \times 7 \\ \hline \end{array}$

10. $\begin{array}{r} 0 \\ \times 9 \\ \hline \end{array}$

Multiplying 0 in a Number

1. There are 110 bananas in this bunch.

How many bananas are in 4 such bunches? $4 \times 110 = ?$



<p>A</p> $\begin{array}{r} 110 \\ \times 4 \\ \hline \end{array}$	<p>B</p> $\begin{array}{r} 107 \\ \times 3 \\ \hline \end{array}$
---	---

Box A. Ones: *Think*, " $4 \times 0 = 0$."

Write "0" in \dots place.

Finish the work in box A.

2. $3 \times 107 = ?$

Box B. For ones, *think*, " $3 \times 7 = 21$."

Write \dots ; carry \dots tens.

For tens, *think*, " $3 \times 0 = 0$, and 2

carried are 2." Write \dots

Hundreds: *Think*, " $3 \times 1 = 3$." Write "3."

3. Cross out products that are wrong.

$\begin{array}{r} 210 \\ \times 4 \\ \hline 844 \end{array}$

$\begin{array}{r} 102 \\ \times 9 \\ \hline 908 \end{array}$

$\begin{array}{r} \$3.08 \\ \times 3 \\ \hline \$9.24 \end{array}$

$\begin{array}{r} \$1.03 \\ \times 5 \\ \hline \$5.55 \end{array}$

Multiply. To check, multiply again.

a
4. $\begin{array}{r} 430 \\ \times 2 \\ \hline \end{array}$

b
 $\begin{array}{r} 103 \\ \times 7 \\ \hline \end{array}$

c
 $\begin{array}{r} 340 \\ \times 2 \\ \hline \end{array}$

d
 $\begin{array}{r} \$2.09 \\ \times 3 \\ \hline \end{array}$

5. $\begin{array}{r} 110 \\ \times 9 \\ \hline \end{array}$

$\begin{array}{r} 108 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 206 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} \$1.03 \\ \times 8 \\ \hline \end{array}$

6. $\begin{array}{r} 208 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 120 \\ \times 4 \\ \hline \end{array}$

$\begin{array}{r} 102 \\ \times 7 \\ \hline \end{array}$

$\begin{array}{r} \$3.20 \\ \times 3 \\ \hline \end{array}$

7. $\begin{array}{r} 310 \\ \times 2 \\ \hline \end{array}$

$\begin{array}{r} 307 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 220 \\ \times 4 \\ \hline \end{array}$

$\begin{array}{r} \$1.02 \\ \times 6 \\ \hline \end{array}$

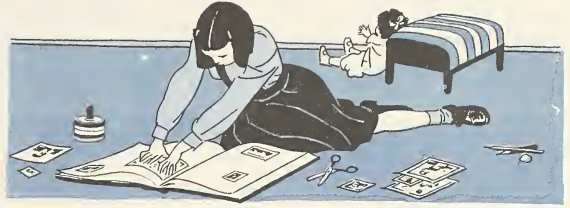
8. $\begin{array}{r} 205 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 104 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 325 \\ \times 2 \\ \hline \end{array}$

$\begin{array}{r} \$1.08 \\ \times 2 \\ \hline \end{array}$

Making and Solving Problems



Write questions to make addition or subtraction or multiplication problems where you see A. or S. or M.

1. Ted picked 3 quarts of berries in each of 4 rows. M.

2. In all, Ted picked 53 qt. of berries while Joe was picking 49 qt. S.

3. Ted put 4 layers of baskets in a box, 12 baskets to a layer. M.

4. Ted's father sold 42 of the 56 boxes of berries they picked. S.

5. Ann pasted 48 small and 32 large pictures in her book. A.

6. Nineteen of the 48 small pictures were taken at the seashore. S.

7. A page in Ann's book holds 3 rows of 6 small pictures each. M.

8. Ann pasted 16 of the 32 large pictures in her book before lunch. S.

Find answers on another piece of paper. Write them here.

1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____

Carrying Hundreds

1. It is 360 feet around our school building. Jack ran around the building 2 times. How many feet did he run?

$$2 \times 360 = ? \text{ (Box A.)}$$

A

Hundreds	Tens	Ones
3	6	0
\times		2
7	2	0

Ones: $2 \times 0 = \dots$
Write "0" in one's place.

$$\text{Tens: } 2 \times 6 = 12.$$

$$12 \text{ tens} = 1 \text{ hundred}$$

and \dots tens. Write \dots in ten's place. Carry 1 \dots

Hundreds: $2 \times 3 = \dots$. Add the 1 (hundred) carried. Write \dots

$$2. \ 3 \times 246 = ? \text{ (Box B.)}$$

Must you carry both a ten and a hundred? \dots

B

2	4	6
\times		3

Carry hundreds like tens when the product in the ten's column means 10 tens or more.

Draw a ring around each example in which you must carry hundreds.

a	b	c	d
3. 104	121	124	\$2.35
$\times 3$	$\times 8$	$\times 2$	$\times 3$

Cross out wrong product figures.

a	b	c	d
4. 123	253	170	\$2.87
$\times 8$	$\times 3$	$\times 3$	$\times 2$
984	659	510	\$4.74

Multiply. To check, multiply again.

a	b	c	d
5. 130	249	468	\$1.98
$\times 5$	$\times 3$	$\times 2$	$\times 3$
6. 195	132	130	\$1.20
$\times 2$	$\times 4$	$\times 6$	$\times 5$
7. 102	122	130	\$1.75
$\times 7$	$\times 5$	$\times 4$	$\times 2$

Practice in Carrying

Write answers in rows 1 to 5. For Ex. 1a, *think*, "Three 2's are 6, and 2 are 8."

a	b	c	d
1. $3 \times 2 + 2 = \dots$	$8 \times 3 + 2 = \dots$	$7 \times 0 + 3 = \dots$	$9 \times 2 + 2 = \dots$
2. $3 \times 9 + 2 = \dots$	$4 \times 2 + 3 = \dots$	$3 \times 3 + 2 = \dots$	$3 \times 7 + 1 = \dots$
3. $3 \times 4 + 1 = \dots$	$2 \times 7 + 3 = \dots$	$3 \times 8 + 4 = \dots$	$6 \times 1 + 3 = \dots$
4. $8 \times 2 + 3 = \dots$	$9 \times 3 + 3 = \dots$	$7 \times 3 + 2 = \dots$	$6 \times 3 + 4 = \dots$
5. $3 \times 5 + 2 = \dots$	$3 \times 6 + 3 = \dots$	$2 \times 9 + 3 = \dots$	$2 \times 8 + 2 = \dots$

Time for Practice!

Multiply. To check, multiply again. Watch carrying!

	a	b	c	d	e	f	g	h
1.	$\begin{array}{r} 308 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 413 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 130 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 146 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 23 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 56 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 251 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} \$0.22 \\ \times 7 \\ \hline \end{array}$
2.	$\begin{array}{r} 123 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 102 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 132 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 32 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 279 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 21 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 114 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} \$2.97 \\ \times 2 \\ \hline \end{array}$

Add, subtract, or multiply. Watch the signs!

3.	$\begin{array}{r} 700 \\ - 262 \\ \hline \end{array}$	$\begin{array}{r} 249 \\ + 306 \\ \hline \end{array}$	$\begin{array}{r} 123 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 871 \\ - 364 \\ \hline \end{array}$	$\begin{array}{r} 103 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 70 \\ + 568 \\ \hline \end{array}$	$\begin{array}{r} 837 \\ - 793 \\ \hline \end{array}$	$\begin{array}{r} \$3.00 \\ \times 3 \\ \hline \end{array}$
4.	$\begin{array}{r} 38 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 315 \\ + 386 \\ \hline \end{array}$	$\begin{array}{r} 513 \\ - 85 \\ \hline \end{array}$	$\begin{array}{r} 195 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 435 \\ + 462 \\ \hline \end{array}$	$\begin{array}{r} 240 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 739 \\ - 207 \\ \hline \end{array}$	$\begin{array}{r} \$6.20 \\ - 0.85 \\ \hline \end{array}$
5.	$\begin{array}{r} 528 \\ + 385 \\ \hline \end{array}$	$\begin{array}{r} 89 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 630 \\ - 497 \\ \hline \end{array}$	$\begin{array}{r} 955 \\ - 557 \\ \hline \end{array}$	$\begin{array}{r} 97 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 366 \\ + 189 \\ \hline \end{array}$	$\begin{array}{r} 134 \\ - 70 \\ \hline \end{array}$	$\begin{array}{r} \$3.70 \\ \times 2 \\ \hline \end{array}$

Finding n

Find the numbers for n . Do your work on another piece of paper. Write your answers in the box at the bottom of the page.

- | | | | |
|------------------|--------------------|---------------------|--------------------|
| 1. $n + 36 = 65$ | 5. $61 - n = 13$ | 9. $n + 7 = 188$ | 13. $97 - n = 39$ |
| 2. $80 - n = 17$ | 6. $52 + n = 73$ | 10. $178 + n = 200$ | 14. $n + 18 = 142$ |
| 3. $37 + n = 62$ | 7. $84 - n = 37$ | 11. $n = 509 + 97$ | 15. $72 + n = 504$ |
| 4. $n = 71 + 34$ | 8. $106 + n = 131$ | 12. $301 - n = 48$ | 16. $n = 69 + 282$ |

Write answers for Ex. 1 to 16 here.

- | | | | | | | | |
|---------|----------|----------|----------|----------|----------|----------|----------|
| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. |
| 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. |



1. If Lois puts 8 cabbage plants in rows of 4 plants, how many rows will she have?
The number question is 4's in 8 = ?

a. Draw rings around groups of 4 plants.

How many groups of 4 are there?

4's in 8 =

b. Subtract 4's from 8. $8 - 4 = 4$,
 $4 - 4 = \dots$. How many 4's did you
subtract? In 8 there are 4's.



2. With 18 lettuce plants, how many rows of 6 plants can Lois make?

The number question is 6's in 18 = ?

a. Draw rings around groups of 6 plants.

How many groups? 6's in 18 =

b. Subtract 6's from 18. $18 - 6 = 12$,
 $12 - 6 = \dots$, $6 - 6 = \dots$. In 18
there are 6's.

6's in 18 = 3 is a division (D.) fact.

A



3. 5's in 15 = ?

a. Box A. Draw rings around groups of
5 dots. 5's in 15 =

b. Subtract 5's from 15. $15 - 5 = \dots$,
 $10 - 5 = \dots$, $5 - 5 = \dots$. In 15
there are 5's.

B



C



Use the dot pictures to find the answers for Ex. 4 and 5.

4. 3's in 12 = (Box B).

5. 2's in 16 = (Box C).

D

6. 3's in 9 = In box D make a
dot picture to find the answer.

E

7. 2's in 10 = In box E make a
dot picture to find the answer.

**When you find how many equal groups
there are, you are dividing.**

Finding Division Facts (D. Facts)

1. Box A. Draw 6 tents in groups of 3. Finish this

story: 3's in 6 = ____ . 3's in 6 = 2 is a division fact.

2. Box B. Draw 10 oranges in groups of 5. Finish the

D. fact: 5's in 10 = _____.

3. Box C. Draw 8 eggs in groups of 2. Finish the D.

fact: 2's in 8 = _____.

4. In each example, are the things in the equal groups

like the things in the large group? _____

Finding how many equal groups you can make is dividing. The things in all groups are like-things.

5. If you put 6 plums in a bag, how many bags will you need for 12 plums?

Make a dot picture in box D. Then finish the D. fact.

D. fact: 6's in _____ = _____.

6. How many piles of 5 pennies can you make with 15 pennies? Make a dot picture in box E.

D. fact: 5's in _____ = _____.

7. A box holds 1 dozen eggs (12 eggs) in rows of 4. How many rows are there? Make a dot picture in box F.

D. fact: _____

Box G shows how to find the answer for Ex. 8 by subtracting 3's from 9. Do Ex. 9 to 16 the same way.

Do your work on another piece of paper.

8. 3's in 9 = 3

11. 2's in 12 = ____

14. 7's in 14 = ____

9. 7's in 21 = ____

12. 6's in 18 = ____

15. 9's in 27 = ____

10. 3's in 15 = ____

13. 8's in 24 = ____

16. 2's in 10 = ____

A



B



C



D

E

F

G

9

$$\begin{array}{r} 9 \\ - 3 \text{ (1)} \\ \hline 6 \end{array}$$

$$\begin{array}{r} 6 \\ - 3 \text{ (2)} \\ \hline 3 \end{array}$$

$$\begin{array}{r} 3 \\ - 3 \text{ (3)} \\ \hline 0 \end{array}$$

Division Facts for Dividing by 2



1. There are 4 black socks. How many pairs (2's) do they make? 2's in 4 = ----

2. There are 8 green socks. How many pairs do they make? 2's in 8 = ----

3. There are 6 white socks. How many pairs do they make? 2's in 6 = ----

4. 12 socks make how many pairs? Find 12 socks. Then count the pairs.
2's in 12 = ----

5. Use 16 socks. 2's in 16 = ----

6. Use 10 socks. 2's in 10 = ----

7. Use 18 socks. 2's in 18 = ----

8. Use 14 socks. 2's in 14 = ----

Another way to write the division fact

$$2 \overline{)14} \begin{array}{r} 7 \\ \end{array}$$

9. Finish the table of division facts below. Write the answers at the top of the examples.

Division Facts, Dividing by 2

$2 \overline{)2}$	$2 \overline{)4}$	$2 \overline{)6}$	$2 \overline{)8}$	$2 \overline{)10}$	$2 \overline{)12}$	$2 \overline{)14}$	$2 \overline{)16}$	$2 \overline{)18}$
-------------------	-------------------	-------------------	-------------------	--------------------	--------------------	--------------------	--------------------	--------------------

Division Facts with Quotient 2

a	b	c	d	e	f	g	h	i
12	16	10	4	18	8	14	2	6
$\begin{array}{r} -6 \\ 6 \end{array}$	$\begin{array}{r} -8 \\ 8 \end{array}$	$\begin{array}{r} -5 \\ 5 \end{array}$	$\begin{array}{r} -2 \\ 2 \end{array}$	$\begin{array}{r} -9 \\ 9 \end{array}$	$\begin{array}{r} -4 \\ 4 \end{array}$	$\begin{array}{r} -7 \\ 7 \end{array}$	$\begin{array}{r} -1 \\ 1 \end{array}$	$\begin{array}{r} -3 \\ 3 \end{array}$
$\begin{array}{r} -6 \\ 0 \end{array}$	$\begin{array}{r} -8 \\ 0 \end{array}$	$\begin{array}{r} -5 \\ 0 \end{array}$	$\begin{array}{r} -2 \\ 0 \end{array}$	$\begin{array}{r} -9 \\ 0 \end{array}$	$\begin{array}{r} -4 \\ 0 \end{array}$	$\begin{array}{r} -7 \\ 0 \end{array}$	$\begin{array}{r} -1 \\ 0 \end{array}$	$\begin{array}{r} -3 \\ 0 \end{array}$

1. Use subtraction examples a to i to find these facts:

a. 6's in 12 = ----

d. 2's in 4 = ----

g. 7's in ---- = ----

b. 8's in 16 = ----

e. 9's in ---- = ----

h. 1's in ---- = ----

c. 5's in 10 = ----

f. 4's in ---- = ----

i. 3's in ---- = ----

2. Answers in division are called quotients. Write quotients to finish this table of D. facts.

Division Facts, Quotient 2

1) $\overline{2}$ 2) $\overline{4}$ 3) $\overline{6}$ 4) $\overline{8}$ 5) $\overline{10}$ 6) $\overline{12}$ 7) $\overline{14}$ 8) $\overline{16}$ 9) $\overline{18}$

Most Division Facts Go in Pairs



1. John can divide his 8 cents into equal groups in two ways.

Box A. 4's in 8 = ____ B. 2's in 8 = ____

The two D. facts go together. They make a pair.

2. Box C has 10 dots. It shows a pair of D. facts.



a. By rows: 5's in 10 = ____

b. By columns: 2's in 10 = ____

D. facts almost always go in pairs.

Write the answers. Then write the other D. fact in each pair, as in Ex. 3.

3. 2's in 14 = 7 7's in 14 = 2

4. 3's in 6 = ____ ____ in 6 = 3

5. 9's in 18 = ____ ____ in 18 = 9

6. 2's in 12 = ____ _____

7. 8's in 16 = ____ _____

8. 2's in 10 = ____ _____

9. Is there another fact to make a pair with 2's in 4 = 2? _____

A New Way to Write Division Facts

A
2's in 10 = 5

B
$$\begin{array}{r} 5 \\ 2\overline{)10} \end{array}$$

C
10 \div 2 = 5

We can write D. facts in three ways (boxes A, B, and C). You have used two of these ways, A and B.

Now look at box C. The quotient, 5, is at the end. The sign \div means to divide. To

read the division fact in box C, we say:

10 divided by 2 is 5.

Write Ex. 1 to 5 the new way, as in box C. Write the quotients.

1. 2's in 16 _____

2. 4) $\overline{8}$ _____

3. 9) $\overline{18}$ _____

4. 2's in 12 _____

5. 7's in 14 _____

Should You Subtract or Divide?



1. Sue had 12 spoons. She put 2 at Mother's place. That left how many spoons? Should you subtract or divide?

You subtract because you must find how many are left.

2. Sue put 2 spoons at each place. She used 12 spoons. How many places did she set? Should you subtract or divide?

You divide because you must find how many equal groups (2's) in 12. You could subtract, but it is quicker to divide.

If you must subtract the same number over and over, it is shorter to divide.

Draw a ring around "S." or "D." to tell if you should subtract or divide in Ex. 3 to 9. Do not work the problems now.

3. Joe spent 5¢ for a candy bar. Then how much of his 10¢ was left?

S. D.

4. How many 5¢ candy bars can you buy with 10¢? S. D.

5. Jane puts 2 buttons on each doll dress. 8 buttons are enough for how many doll dresses? S. D.

6. Jane has used all but 4 of her 18 buttons. How many has she used? S. D.

7. Mike put books in piles of 6. How many piles did 12 books make? S. D.

8. Dick put 8 of his 12 books in a pile. How many were not in the pile? S. D.

9. If you write 7 words in a row, 14 words will make how many rows? S. D.

Now work Ex. 1 to 9 on another piece of paper. Write your answers in the box.

1.	2.	3.
4.	5.	6.
7.	8.	9.

Add, Subtract, or Multiply. Watch the Signs!

a	b	c	d	e	f	g	h
1. $\begin{array}{r} 211 \\ -136 \\ \hline \end{array}$	$\begin{array}{r} 130 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 67 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ +465 \\ \hline \end{array}$	$\begin{array}{r} 38 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 800 \\ -216 \\ \hline \end{array}$	$\begin{array}{r} \$2.13 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} \$7.08 \\ -0.99 \\ \hline \end{array}$
2. $\begin{array}{r} 437 \\ 60 \\ 8 \\ +207 \\ \hline \end{array}$	$\begin{array}{r} 103 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 25 \\ 78 \\ 39 \\ +58 \\ \hline \end{array}$	$\begin{array}{r} 129 \\ -55 \\ \hline \end{array}$	$\begin{array}{r} 52 \\ 7 \\ 49 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} \$0.60 \\ 3.15 \\ 0.82 \\ +2.18 \\ \hline \end{array}$	$\begin{array}{r} 69¢ \\ 8¢ \\ 8¢ \\ +9¢ \\ \hline \end{array}$	$\begin{array}{r} \$0.72 \\ 2.18 \\ 0.92 \\ +3.08 \\ \hline \end{array}$



1. The cups are in piles of The

12 cups make ... piles. 3's in 12 = ...

2. $12 \div 3 = 4$. The D. fact that makes

a pair with this is $12 \div 4 = \dots$.



3. The 15 dishes are in piles of,

and there are ... piles. 3's in 15 = ...

4. $15 \div 3 = 5$. The D. fact that makes

a pair with this is $15 \div \dots = \dots$.

5. If 24 glasses are put in rows of 3,

they will make ... rows.

Use box A to help you.

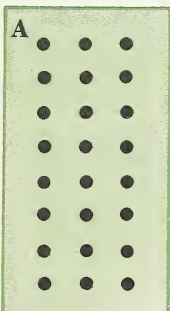
6. Finish the two D. facts
for Ex. 5.

a. $3 \overline{)24}$ b. $\dots \overline{)24}$

7. Finish the pair of D. facts shown in
box B.

a. $18 \div \dots = \dots$

b. $18 \div \dots = \dots$



8. Finish the pair of division facts shown
in box C.

a. Rows: $27 \div \dots = \dots$.

b. Columns:

9. In box D, draw 21
dots in rows of 3.

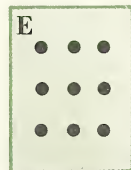
Write the two D. facts.

a. $21 \div \dots = \dots$

b. $21 \div \dots = \dots$



10. Box E. In 9 there are
..... 3's. Is there another
fact to make a pair?



Write the quotients for Ex. 11 to 26.
Use the pictures on this page to help you.

11. $18 \div 6 = \dots$ 19. $24 \div 8 = \dots$

12. $24 \div 3 = \dots$ 20. $6 \div 2 = \dots$

13. $3 \div 3 = \dots$ 21. $27 \div 3 = \dots$

14. $12 \div 4 = \dots$ 22. $15 \div 5 = \dots$

15. $27 \div 9 = \dots$ 23. $18 \div 3 = \dots$

16. $6 \div 3 = \dots$ 24. $21 \div 7 = \dots$

17. $21 \div 3 = \dots$ 25. $12 \div 3 = \dots$

18. $9 \div 3 = \dots$ 26. $15 \div 3 = \dots$

More about Division Facts with 3

One way to check division is to draw dot pictures. Another way is to subtract.

1. $18 \div 6 = 3$. Box A shows how to check the division by subtracting 6's from 18.

How many times can 6 be subtracted? ____ Is 3 the correct quotient? _____

A
18
<u> 6</u> (1)
12
<u> 6</u> (2)
6
<u> 6</u> (3)
0

2. Is 2 the correct quotient for 8's in 24? To check, finish the subtraction that is started in box B.

How many times can you subtract 8 from 24? _____
8's in 24 = _____.

B
24
<u> 8</u> (1)

3. 3's in 9 = _____. Check the quotient by subtracting in box C.

4. 9's in 27 = _____. Check in box D.

C	D
----------	----------

For Ex. 5 to 13 check the quotients by subtracting on another piece of paper. Cross out each quotient that is wrong and write the correct quotient on the line.

5. $21 \div 3 = 6$ _____

6. $12 \div 3 = 4$ _____

7. $15 \div 5 = 3$ _____

8. $24 \div 3 = 7$ _____

9. $6 \div 2 = 3$ _____

10. $15 \div 3 = 6$ _____

11. $27 \div 3 = 8$ _____

12. $18 \div 3 = 6$ _____

13. $21 \div 7 = 4$ _____

14. Finish the D. facts in Ex. a to h. After each fact, write the other fact that goes with it to make a pair.

a. $3 \div 1 = 3$ _____

b. $6 \div 2 =$ _____

c. $12 \div 4 =$ _____

d. $15 \div 5 =$ _____

e. $18 \div 6 =$ _____

f. $21 \div 7 =$ _____

g. $24 \div 8 =$ _____

h. $27 \div 9 =$ _____

Division Facts, Dividing by 3

$$\begin{array}{cccccccc} 3\overline{)3} & 3\overline{)6} & 3\overline{)9} & 3\overline{)12} & 3\overline{)15} & 3\overline{)18} & 3\overline{)21} & 3\overline{)24} & 3\overline{)27} \end{array}$$

Division Facts, Quotient 3

$$\begin{array}{cccccccc} 1\overline{)3} & 2\overline{)6} & 3\overline{)9} & 4\overline{)12} & 5\overline{)15} & 6\overline{)18} & 7\overline{)21} & 8\overline{)24} & 9\overline{)27} \end{array}$$

15. Finish the division tables above. Learn the new facts.

Checking Quotients by Multiplying

1. Box A. Could you

check the work by making

a dot picture?

Could you check by subtracting 3's from

24?

2. Box B. There is a quick way to check

the quotient. First we

multiply. $8 \times 3 = \dots$

We write the product

under the number that was divided.

Is the product, 24, larger than the number

24 that was divided?

Now we subtract. $24 - 24 = \dots$ Is

anything left over? Could we

subtract any more 3's from 24?

Are there eight 3's in 24?

A

$$\begin{array}{r} 8 \\ 3\overline{)24} \end{array}$$

B

$$\begin{array}{r} 8 \\ 3\overline{)24} \\ - 24 \quad (8 \times 3) \\ \hline 0 \end{array}$$

3. Box C. Check the work by multiplying.

Find the product of 2×7 and write this product under the 21 in box C. Then subtract.

C

$$\begin{array}{r} 2 \\ 7\overline{)21} \\ \hline \end{array}$$

Is anything left over?

Can you subtract another 7?

The correct quotient for $21 \div 7$ is

We multiply to check the quotient.

4. Check the quotients in Ex. a to h by multiplying. Cross out wrong quotients and write the correct quotient figures.

$$\begin{array}{llll} \text{a. } 3\overline{)27}^9 & \text{b. } 6\overline{)18}^2 & \text{c. } 2\overline{)16}^9 & \text{d. } 3\overline{)15}^5 \end{array}$$

$$\begin{array}{llll} \text{e. } 3\overline{)21}^6 & \text{f. } 2\overline{)14}^7 & \text{g. } 3\overline{)12}^4 & \text{h. } 9\overline{)18}^3 \end{array}$$

Do You Know?

Part 1

Draw a ring around "Yes" or "No."

1. Are there 40 tens in 400? Yes No
2. In M. examples, do you carry a ten when the product in the ten's column is 10 tens or more?
Yes No
3. Can you divide to find how many equal groups in a larger group?
Yes No
4. Will a quart bottle of milk fill 6 measuring cups?
Yes No

For Ex. 5 to 7, write the answers on the lines after the problems.

5. 3 of 9 boys can ride in one cart.
How many must ride in other carts? -----
6. 3 boys can ride in one cart. How many carts are needed for 9 boys? -----
7. 3 boys can ride in one cart. How many boys can ride in 9 carts? -----

Part 2

Work carefully! Watch the signs!

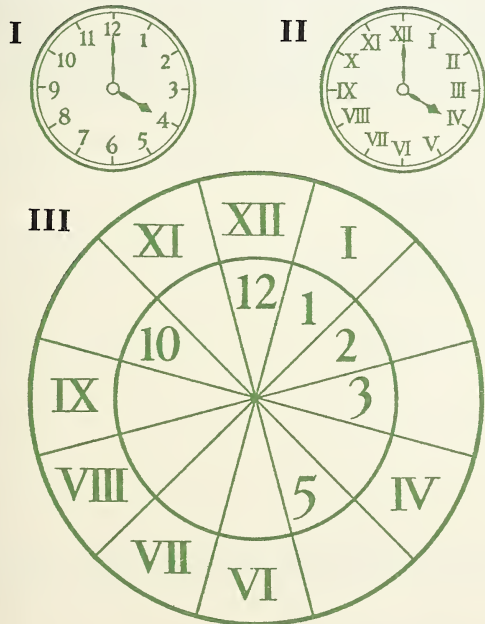
	a	b	c	d	e	f	g	h
1.	$\begin{array}{r} 123 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 613 \\ - 509 \\ \hline \end{array}$	$\begin{array}{r} 408 \\ + 93 \\ \hline \end{array}$	$\begin{array}{r} 168 \\ - 98 \\ \hline \end{array}$	$\begin{array}{r} 346 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 130 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} \$3.87 \\ - 0.56 \\ \hline \end{array}$	$\begin{array}{r} \$0.32 \\ \times 9 \\ \hline \end{array}$
2.	$\begin{array}{r} 844 \\ - 469 \\ \hline \end{array}$	$\begin{array}{r} 112 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 205 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 186 \\ + 429 \\ \hline \end{array}$	$\begin{array}{r} 289 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 600 \\ - 466 \\ \hline \end{array}$	$\begin{array}{r} \$1.03 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} \$1.75 \\ \times 2 \\ \hline \end{array}$
3.	$5\overline{)15}$	$3\overline{)18}$	$8\overline{)16}$	$2\overline{)10}$	$3\overline{)9}$	$2\overline{)16}$	$3\overline{)21}$	$8\overline{)24}$
4.	$3\overline{)6}$	$6\overline{)12}$	$2\overline{)14}$	$3\overline{)27}$	$9\overline{)18}$	$4\overline{)12}$	$6\overline{)18}$	$3\overline{)15}$
5.	$9\overline{)27}$	$3\overline{)12}$	$4\overline{)8}$	$2\overline{)12}$	$7\overline{)14}$	$3\overline{)24}$	$2\overline{)18}$	$7\overline{)21}$
6.	$\begin{array}{r} 161 \\ 308 \\ 207 \\ + 88 \\ \hline \end{array}$	$\begin{array}{r} 58 \\ 9 \\ 8 \\ 9 \\ + 8 \\ \hline \end{array}$	$\begin{array}{r} 22 \\ 10 \\ 19 \\ 27 \\ + 16 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ 6 \\ 34 \\ 89 \\ + 3 \\ \hline \end{array}$	$\begin{array}{r} 334 \\ 167 \\ 203 \\ + 91 \\ \hline \end{array}$	$\begin{array}{r} 725 \\ 18 \\ 117 \\ + 109 \\ \hline \end{array}$	$\begin{array}{r} \$0.07 \\ 6.15 \\ 0.08 \\ + 1.97 \\ \hline \end{array}$	$\begin{array}{r} \$0.08 \\ 6.25 \\ 0.38 \\ 0.07 \\ + 0.24 \\ \hline \end{array}$



Roman Numbers

The Roman people, who used to live in Italy, wrote their numbers with letters. We still use Roman numbers sometimes. The hours are shown in our numbers on clock I and in Roman numbers on clock II.

1. Study clocks I and II. Then write the missing numbers in clock III.



2. The letter I means 1; the letter V means ____; the letter ____ means 10.

3. Study the clocks. Then draw lines between numbers that mean the same.

II	4	I	9	XII	12
V	2	IX	6	VII	3
X	5	VI	1	III	7
IV	10	XI	11	VIII	8

Study these numbers:

IV	V	VI	IX	X	XI
4	5	6	9	10	11

4. I before V means 1 less than 5.
5. I after V means 1 _____ than 5.
6. I before X means 10 minus _____.
7. I after X means 10 _____ 1.
8. Write the Roman numbers for

6	12	9
7	3	11
4	10	8



1. Picture A. The 15 tulips are in rows of 5 and in columns of 3. The picture shows 2 M. facts.

a. three 5's = _____

b. five _____ = _____

Picture A shows 2 D. facts, too.

c. 5's in 15 = _____

d. 3's in 15 = _____

These 4 facts make the whole story in M. and D. about 3, 5, and 15.

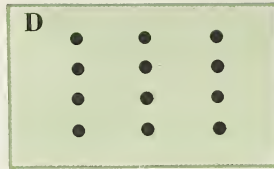
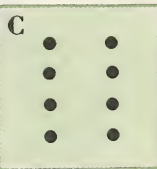


2. Picture B. Write the whole story in M. and D. about 2, 6, and 12.

M. $2 \times 6 = ______$ $6 \times ______ = ______$

D. $12 \div 2 = ______$ $12 \div ______ = ______$

This whole story has _____ parts. It has _____ M. facts and _____ D. facts.



3. Write the whole story in M. and D. for box C.

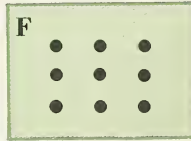
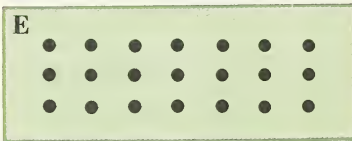
M. Facts

D. Facts

4. Write the whole story for box D.

M. Facts

D. Facts



5. Box E shows the whole story in M. and D. for _____, _____, and _____. Write the four facts.

M. Facts

D. Facts

6. How many parts has the whole story shown in box F? _____

Write the whole story for box F.

Finishing Whole Stories

Every multiplication or division fact is part of a whole story.
Some whole stories have two parts. Some have four parts.

Finish the whole stories below. Ex. 1 is done for you.

- | | | | |
|------------------------------|------------------------------------|-----------------------------------|-----------------------------------|
| 1. $3 \times 2 = 6$ | $2 \times 3 = 6$ | $6 \div 3 = 2$ | $6 \div 2 = 3$ |
| 2. $2 \times 5 = 10$ | $5 \times \text{---} = \text{---}$ | $10 \div \text{---} = \text{---}$ | $10 \div \text{---} = \text{---}$ |
| 3. $6 \times 3 = 18$ | ----- | $18 \div 6 = \text{---}$ | ----- |
| 4. $2 \times 8 = \text{---}$ | ----- | $16 \div 2 = \text{---}$ | ----- |
| 5. $9 \times 3 = 27$ | ----- | $27 \div \text{---} = \text{---}$ | ----- |
| 6. $7 \times 2 = \text{---}$ | ----- | $14 \div 7 = \text{---}$ | ----- |
| 7. $3 \times 8 = \text{---}$ | ----- | $\text{---} \div 3 = \text{---}$ | ----- |
| 8. $2 \times 9 = 18$ | ----- | $18 \div 2 = \text{---}$ | ----- |

9. Check your work for Ex. 3, for Ex. 6, and for Ex. 7
by making dot pictures in these boxes.

Ex. 3



Ex. 6



Ex. 7



Practice on M. and D. Facts

Write the missing numbers. Use whole stories for help.

- | | | | |
|-------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 1. $5 \times \text{---} = 15$ | 8. $12 \div 3 = \text{---}$ | 15. $\text{---} \times 2 = 18$ | 22. $6 \times \text{---} = 18$ |
| 2. $27 \div 3 = \text{---}$ | 9. $24 \div \text{---} = 3$ | 16. $\text{---} \div 2 = 7$ | 23. $21 \div \text{---} = 3$ |
| 3. $18 \div \text{---} = 9$ | 10. $9 \times \text{---} = 27$ | 17. $15 \div \text{---} = 3$ | 24. $\text{---} \times 7 = 14$ |
| 4. $\text{---} \times 2 = 16$ | 11. $3 \times \text{---} = 9$ | 18. $16 \div \text{---} = 2$ | 25. $8 \times \text{---} = 24$ |
| 5. $7 \times 3 = \text{---}$ | 12. $\text{---} \times 2 = 12$ | 19. $4 \times \text{---} = 12$ | 26. $18 \div \text{---} = 3$ |
| 6. $12 \div \text{---} = 6$ | 13. $\text{---} \times 2 = 10$ | 20. $27 \div 9 = \text{---}$ | 27. $21 \div 7 = \text{---}$ |
| 7. $\text{---} \times 2 = 4$ | 14. $3 \times \text{---} = 12$ | 21. $2 \times \text{---} = 8$ | 28. $\text{---} \times 2 = 2$ |



1. Each skate has 4 wheels. How many wheels are there on all the skates?

a. There are _____ skates with _____ wheels on each skate.

b. Count by 4's: 4, _____, _____, _____, _____, _____.

2. The M. fact for Ex. 1 is _____

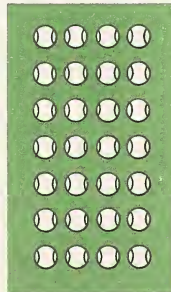
3. The M. fact that makes a pair with the fact in Ex. 2 is _____

4. Write the D. facts that go with the M. facts in Ex. 2 and 3.

$$24 \div ______ = ______ \qquad 24 \div ______ = ______$$

5. The four facts in Ex. 2 to 4 make the whole story in M. and D. about _____, _____, and _____.

6. The picture of the balls shows the whole story about _____, _____, and 28.



Write the four facts.

A	×	×	×	×	×	×	×	×	×
	×	×	×	×	×	×	×	×	×
	×	×	×	×	×	×	×	×	×
	×	×	×	×	×	×	×	×	×

7. Box A shows the whole story about _____, _____, and _____.

Write the four parts.

8. The whole story about 4, 5, and 20 is shown in box _____. Write this story.

B	×	×	×	×	×
	×	×	×	×	×
	×	×	×	×	×
	×	×	×	×	×
	×	×	×	×	×

C	×	×	×	×	×	×	×	×	×
	×	×	×	×	×	×	×	×	×
	×	×	×	×	×	×	×	×	×
	×	×	×	×	×	×	×	×	×
	×	×	×	×	×	×	×	×	×

9. Box C shows the whole story about _____, _____, and _____. Write the parts.

10. In box D make a dot picture to show the whole story for 4, 4, and 16. This whole story has only two parts. Write them here:



Multiplication Facts with 4



4 8

1. Count the goldfish by 4's. Write the numbers under the pictures.

2. If you buy 2 of the bowls, how many goldfish should you get? $2 \times 4 =$ _____

3. Use the picture and the numbers you wrote under it to find how many goldfish there are for each of Ex. a to f.

a. 5 bowls. $5 \times 4 =$ _____

b. 8 bowls. $8 \times 4 =$ _____

c. 3 bowls. $3 \times 4 =$ _____

d. 7 bowls. $7 \times 4 =$ _____

e. 9 bowls. $9 \times 4 =$ _____

f. 6 bowls. $6 \times 4 =$ _____

4. Most M. facts go in pairs. On the line after each M. fact above, write the other M. fact that goes with it.

5. Finish these additions:

a. 6	b. 3	c. 5	d. 9
6	3	5	9
6	3	5	9
<u>+ 6</u>	<u>+ 3</u>	<u>+ 5</u>	<u>+ 9</u>

e. 7	f. 8	g. 2	h. 4
7	8	2	4
7	8	2	4
<u>+ 7</u>	<u>+ 8</u>	<u>+ 2</u>	<u>+ 4</u>

6. Write Ex. 5a to 5g as M. facts.

a. _____ d. _____

b. _____ e. _____

c. _____ f. _____

g. _____

7. Write Ex. 5h as a M. fact.

Is there another M. fact to go with this one? _____

8. Finish the tables below.

M. Facts for 4's

M. Facts for 4

$1 \times 4 =$ _____

$4 \times 1 = 4$

$2 \times 4 =$ _____

$4 \times 2 =$ _____

$3 \times$ _____ $= 12$

_____ $\times 3 = 12$

$4 \times 4 =$ _____

$4 \times$ _____ $= 16$

_____ $\times 4 = 20$

_____ $\times 5 = 20$

$6 \times$ _____ $= 24$

$4 \times$ _____ $= 24$

$7 \times 4 =$ _____

$4 \times 7 =$ _____

_____ $\times 4 = 32$

_____ $\times 8 = 32$

$9 \times 4 =$ _____

$4 \times$ _____ $= 36$

Practice on Multiplication Facts

If Ex. 1 is correct, put \checkmark before it. If it is wrong, put \times before it. Do the same for Ex. 2 to 7.



... 1. 6 gallons of milk are equal to 24 quarts of milk.

... 2. Three 4¢ picture cards cost 20¢ altogether.

... 3. It takes just 32 inches of ribbon to make four 8-inch pieces.

... 4. To draw 7 flowers, each with 4 petals, you must draw 30 petals.

... 5. If you use 4 sheets of paper for a book, you need 36 sheets for 8 books.

... 6. Nine 4-letter words make 36 letters altogether.

... 7. Four 6-inch rulers placed end to end reach just 30 inches.



Write the products in rows 8 to 10.

	a	b	c	d	e	f	g	h	i	j
8.	4	9	4	2	4	3	6	8	3	4
	$\times 6$	$\times 2$	$\times 3$	$\times 7$	$\times 9$	$\times 7$	$\times 3$	$\times 4$	$\times 9$	$\times 5$
9.	7	2	9	4	8	3	6	8	9	7
	$\times 4$	$\times 8$	$\times 3$	$\times 4$	$\times 2$	$\times 5$	$\times 4$	$\times 3$	$\times 4$	$\times 3$
10.	2	4	3	5	3	4	5	4	2	3
	$\times 4$	$\times 8$	$\times 6$	$\times 4$	$\times 8$	$\times 2$	$\times 3$	$\times 7$	$\times 9$	$\times 4$

Multiplication Facts for 4's and for 4

4	4	4	4	4	4	4	4	4
$\times 1$	$\times 2$	$\times 3$	$\times 4$	$\times 5$	$\times 6$	$\times 7$	$\times 8$	$\times 9$
1	2	3	4	5	6	7	8	9
$\times 4$	$\times 4$	$\times 4$	$\times 4$	$\times 4$	$\times 4$	$\times 4$	$\times 4$	$\times 4$

11. Finish the tables above. Learn all the facts.

How Many 4's?



1. The 28 men in the circus band make how many rows of 4? The number question is, "How many 4's are there in 28?"

Count the rows of 4. There are

rows. $28 \div 4 = \dots\dots$

2. Using the picture, find how many rows of 4 there would be in

a. a band of 20 men. 4's in 20 =

b. a band of 16 men. 4's in 16 =

c. a band of 24 men. 4's in 24 =

d. a band of 12 men. 4's in 12 =

3. There are five 4's in 20. Then

a. there are 4's in 24, and

b. there are 4's in 28, and

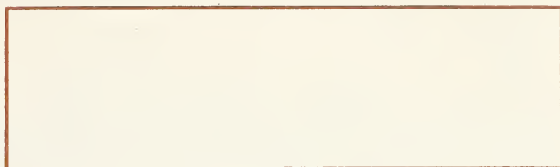
c. there are 4's in 32, and

d. there are 4's in 36.

4. 4's in $32 = ?$ To find out, think of

the M. fact $8 \times 4 = 32$. $32 \div 4 = \dots\dots$

5. Draw 36 dots in groups of 4.



The dots show the D. fact $36 \div 4 = \dots\dots$

6. It is easy to check the quotient by multiplying.

Bob wrote, " $12 \div 4 = 4$."

The box shows what he wrote to check his work.

$$\begin{array}{r} 4 \\ 4 \overline{)12} \\ \underline{-16} \end{array}$$

(Wrong)

Can Bob subtract 16 from 12?

Is the quotient, 4, too large?

The correct quotient is

7. By multiplying, check the quotient figures in Ex. a, b, and c. Change any quotient figures that are wrong.

a. $\begin{array}{r} 5 \\ 4 \overline{)24} \end{array}$

b. $\begin{array}{r} 4 \\ 4 \overline{)16} \end{array}$

c. $\begin{array}{r} 8 \\ 4 \overline{)36} \end{array}$

8. Finish the table of D. facts below.

Division Facts, Dividing by 4

$4 \overline{)4}$

$4 \overline{)8}$

$4 \overline{)12}$

$4 \overline{)16}$

$4 \overline{)20}$

$4 \overline{)24}$

$4 \overline{)28}$

$4 \overline{)32}$

$4 \overline{)36}$

Division Facts with Quotient 4

a. 24	b. 36	c. 12	d. 20	e. 32	f. 8	g. 28	h. 16
$\begin{array}{r} -6 \\ 18 \end{array}$	$\begin{array}{r} -9 \\ 27 \end{array}$	$\begin{array}{r} -3 \\ 9 \end{array}$	$\begin{array}{r} -5 \\ 15 \end{array}$	$\begin{array}{r} -8 \\ 24 \end{array}$	$\begin{array}{r} -2 \\ 6 \end{array}$	$\begin{array}{r} -7 \\ 21 \end{array}$	$\begin{array}{r} -4 \\ 12 \end{array}$
$\begin{array}{r} -6 \\ 12 \end{array}$	$\begin{array}{r} -9 \\ 18 \end{array}$	$\begin{array}{r} -3 \\ \end{array}$	$\begin{array}{r} -5 \\ \end{array}$	$\begin{array}{r} -8 \\ \end{array}$	$\begin{array}{r} -2 \\ \end{array}$	$\begin{array}{r} -7 \\ \end{array}$	$\begin{array}{r} -4 \\ \end{array}$
$\begin{array}{r} -6 \\ 6 \end{array}$	$$	$$	$$	$$	$$	$$	$$
$\begin{array}{r} -6 \\ 0 \end{array}$							

1. Study the subtraction in Ex. a above. Then finish the subtractions in Ex. b to h. Subtract until nothing is left.

2. Now write the D. fact for each of Ex. a to g above. Ex. a is done for you.

a. $24 \div 6 = 4$ -----

b. $36 \div = $ -----

c. $12 \div = $ -----

d. $20 \div = $ -----

e. $32 \div = $ -----

f. $8 \div = $ -----

g. $28 \div = $ -----

3. On the line after each D. fact in Ex. 2, write the other D. fact that goes with it to make a pair. (For Ex. a, it is $24 \div 4 = 6$.)

4. Now write Ex. h as a division fact:

----- Is there another

D. fact to make a pair with it? -----

5. By multiplying, check quotient figures in Ex. a to f below. Change quotient figures that are not correct.

a. $\begin{array}{r} 4 \\ 4 \overline{)16} \\ -16 \\ \hline \end{array}$

b. $\begin{array}{r} 5 \\ 3 \overline{)12} \\ - \\ \hline \end{array}$

c. $\begin{array}{r} 4 \\ 8 \overline{)32} \end{array}$

d. $\begin{array}{r} 3 \\ 5 \overline{)20} \end{array}$

e. $\begin{array}{r} 3 \\ 9 \overline{)36} \end{array}$

f. $\begin{array}{r} 4 \\ 7 \overline{)28} \end{array}$

6. Finish the pairs of D. facts below.

a. $\begin{array}{r} 3 \\ 4 \overline{)12} \end{array}$ --- $\overline{)12}$

b. $4 \overline{)8}$ --- $\overline{)8}$

c. $6 \overline{)24}$ --- $\overline{)24}$

d. $5 \overline{)20}$ --- $\overline{)20}$

7. Write quotients to finish the table below.

Division Facts, Quotient 4

$1 \overline{)4}$	$2 \overline{)8}$	$3 \overline{)12}$	$4 \overline{)16}$	$5 \overline{)20}$	$6 \overline{)24}$	$7 \overline{)28}$	$8 \overline{)32}$	$9 \overline{)36}$
-------------------	-------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------

Problems and Practice

Read each problem carefully. *Think*, "Should I add, subtract, multiply, or divide to solve the problem?" Draw a ring around A., S., M., or D. to show what you should do. Do not solve the problems now.

1. Betty's shoe bag has 9 pockets. Each pocket holds 2 shoes. The bag will hold how many shoes in all?

A. S. M. D.

2. Each of the rows of pockets holds 6 shoes. For 18 shoes, how many rows are needed?

A. S. M. D.

3. Right now, Betty has 8 shoes in the bag. How many more shoes must she put in the bag to make 18 shoes?

A. S. M. D.

4. Eight apples, 7 oranges, and 9 pears make how many pieces of fruit?

A. S. M. D.

5. If 8 pieces of candy go into a small box, 24 are enough for how many boxes?

A. S. M. D.



6. It takes 8 boards to make a box. To make 4 boxes, Ted needs how many boards?

A. S. M. D.

7. Joe needs only 6 boards for a box because he puts no tops on his boxes. How many boxes can Joe make with 24 boards?

A. S. M. D.

8. After working a while, Joe had 6 boards left. How many of the 24 had he used?

A. S. M. D.

9. 15 pennies equal how many nickels?

A. S. M. D.

Now work the problems and write your answers here:

1. ----- 2. ----- 3. -----

4. ----- 5. ----- 6. -----

7. ----- 8. ----- 9. -----

Write quotients. Look at the tables you made on pages 129 and 130 only if you have to.

a	b	c	d	e	f	g	h	i
10. $3\overline{)27}$	$4\overline{)24}$	$9\overline{)36}$	$8\overline{)24}$	$4\overline{)28}$	$3\overline{)15}$	$8\overline{)32}$	$4\overline{)16}$	$2\overline{)8}$
11. $7\overline{)21}$	$4\overline{)20}$	$7\overline{)28}$	$2\overline{)14}$	$3\overline{)24}$	$1\overline{)4}$	$9\overline{)27}$	$2\overline{)16}$	$4\overline{)36}$
12. $9\overline{)18}$	$3\overline{)6}$	$3\overline{)18}$	$4\overline{)32}$	$5\overline{)15}$	$2\overline{)12}$	$8\overline{)16}$	$4\overline{)12}$	$5\overline{)20}$

Add, Subtract, or Multiply. Watch the Signs!

a	b	c	d	e	f	g	h	i
1. $\begin{array}{r} 165 \\ -95 \\ \hline \end{array}$	$\begin{array}{r} 114 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 409 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 283 \\ +90 \\ \hline \end{array}$	$\begin{array}{r} 134 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 49¢ \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} \$8.00 \\ -7.02 \\ \hline \end{array}$	$\begin{array}{r} \$6.11 \\ -3.04 \\ \hline \end{array}$
2. $\begin{array}{r} 34 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 487 \\ -90 \\ \hline \end{array}$	$\begin{array}{r} 365 \\ +535 \\ \hline \end{array}$	$\begin{array}{r} 43 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 853 \\ -503 \\ \hline \end{array}$	$\begin{array}{r} 123 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 80¢ \\ -39¢ \\ \hline \end{array}$	$\begin{array}{r} \$9.22 \\ -0.58 \\ \hline \end{array}$	$\begin{array}{r} \$2.09 \\ \times 4 \\ \hline \end{array}$
3. $\begin{array}{r} 52 \\ 30 \\ 68 \\ 79 \\ +43 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ 59 \\ 6 \\ 72 \\ +33 \\ \hline \end{array}$	$\begin{array}{r} 207 \\ 189 \\ 198 \\ +210 \\ \hline \end{array}$	$\begin{array}{r} 640 \\ 38 \\ 7 \\ +184 \\ \hline \end{array}$	$\begin{array}{r} 731 \\ 25 \\ 102 \\ +94 \\ \hline \end{array}$	$\begin{array}{r} 87 \\ 60 \\ 19 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 52¢ \\ 8¢ \\ 7¢ \\ +9¢ \\ \hline \end{array}$	$\begin{array}{r} \$0.33 \\ 0.64 \\ 0.75 \\ 0.06 \\ +0.54 \\ \hline \end{array}$	$\begin{array}{r} \$3.90 \\ 0.85 \\ 4.46 \\ +0.38 \\ \hline \end{array}$

Fractions as Names of Equal Parts

1. Are the parts of this apple equal?



What fraction tells the size of one of the equal parts? -----

2. Are the parts of the cake equal?



What fraction names each part? -----



3. This group of 6 marbles has been divided into ---- equal parts. Each part is $\frac{1}{2}$ of the group. In $\frac{1}{2}$ of 6 marbles there are ----- marbles.

A fraction is a number which may stand for one of the equal parts of a thing or of a group. The fraction name tells how large each part is.

4. Box A. The group of



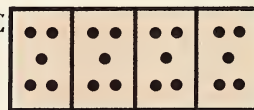
9 dots has been divided into

---- equal parts. The name of each equal part is ----- In $\frac{1}{3}$ of 9 dots there are ---- dots.

B



C

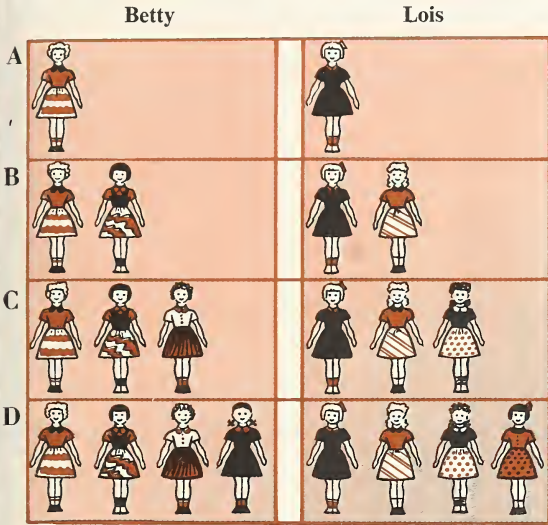


5. Box B. The whole group has ----- dots. The group of dots has been divided into ---- equal parts. Each part is ---- of the whole group.

6. Box C. The ----- dots have been divided into ---- equal parts. The name of each equal part is ----- In $\frac{1}{4}$ of 20 dots there are ---- dots.

Sharing Equally

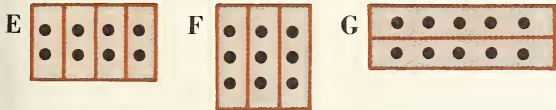
1. Betty and Lois shared their 8 paper dolls equally. How many did each get?



- A. Each girl took one of the 8 dolls.
- B. Each took one more.
- C. Then each took one more.
- D. Then each took one more.

The 8 dolls were then divided into two equal groups. Each girl had ____ dolls.

2. Box E. The 8 dots are divided into ____ equal parts, with ____ dots in each part.



3. Box F. The ____ dots are divided into ____ parts, with ____ dots in each part. Are the parts equal? _____

4. Box G. The fraction story is,
In $\frac{1}{2}$ of ____ dots there are ____ dots.

When you divide a group into equal parts, you are putting the same number of things in each part.

5. Box H. Make a dot picture to show how 3 girls shared 12 dolls equally. Put a dot in the first part of the box and count "1." Then put a dot in the second part and count "2." Keep on until you have counted "12."

There are ____ dots in each of the equal groups.



6. Box I. Make 16 dots in 4 equal groups.

There are ____ dots in each of the equal groups.

7. Box J. Show 15 dots in 3 equal groups. First you must divide the box into ____ parts.

The fraction story is, "In ____ of 15 dots there are ____ dots."



8. Box K. Make a dot picture to show 12 dots in 2 equal groups.

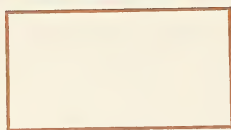
Write the fraction story: _____

Problems about Sharing

1. There were 6 cookies on the plate. Jean and Carol shared them equally. How many cookies did each girl get?



In the box, make a dot picture to show how the 2 girls shared the 6 cookies.



Each girl got cookies.

You can solve sharing problems by counting things into equal groups or by making dot pictures. But it is quicker to use figures and divide.

2. In Ex. 1, the number question is, "In $\frac{1}{2}$ of 6 cookies there are ?_ cookies." A short way to write this question is,

$$\frac{1}{2} \text{ of } 6 = ?$$

To find how many in $\frac{1}{2}$ of 6, divide 6 by 2. Ex. a and b, below, show two ways to write the work. Write the quotients.

a. $6 \div 2 = \dots$

b. $2 \overline{)6}$

To find how many there are in each of the equal parts or shares of a group, you can divide.

3. Ellen wrote 24 words in 3 equal columns. How many words did she write in each column?

The number question is, "In $\frac{1}{3}$ of 24 words there are ?_ words." The short way to write the question is,

$$\dots \text{ of } 24 = ?$$

$24 \div 3 = \dots$

$\frac{1}{3} \text{ of } 24 = \dots$

4. Joan and 3 of her friends shared 12 picture cards equally. How many cards did each girl get?

Must you find $\frac{1}{4}$ of 12?

Write the division example with its quotient:

$$\frac{1}{4} \text{ of } 12 = \dots$$

5. Ted divided his 20 nickels into 4 equal piles. How many nickels did he put in each pile?

Write the number question the short way:

Write the division example with its quotient:

Ted put nickels in each pile.

6. Richard, Donald, and Charles shared 9 lollipops equally. Each boy took how many lollipops?

Divide: $9 \div \dots = \dots$

$$\frac{1}{3} \text{ of } 9 = \dots$$

7. Mr. Brown got 18 new apple trees for his farm. He set out the 18 trees in 2 equal rows. How many trees did he set in each row?

Divide: $\dots \div 2 = \dots$

$$\frac{1}{2} \text{ of } 18 = \dots$$

Making Sharing Problems

For each of Ex. 1 to 4, write a good question to make a sharing problem. Do not work your problems now.

1. There were 8 pieces of candy to be shared equally by 4 girls.

2. Miss Wood asked 15 children to stand in 3 equal groups.

3. Three boys shared 27 nuts equally.

4. Our street has 14 houses in all. Each side has the same number of houses.

Work your problems on another piece of paper. Write the answers here:

1. ----- 2. ----- 3. ----- 4. -----

Time for Practice!

Write the quotients. Then write each example another way.

1. $\frac{1}{2}$ of 8 = -----

2. $3 \overline{)27}$ -----

3. $16 \div 2 =$ -----

4. $4 \overline{)28}$ -----

5. $\frac{1}{2}$ of 14 = -----

6. $20 \div 4 =$ -----

7. $15 \div 3 =$ -----

8. $\frac{1}{4}$ of 24 = -----

9. $\frac{1}{3}$ of 21 = -----

10. $18 \div 2 =$ -----

11. $\frac{1}{4}$ of 36 = -----

12. $3 \overline{)18}$ -----

Write sums or remainders or products. Watch the signs!

a	b	c	d	e	f	g	h
13. $\begin{array}{r} 857 \\ -340 \\ \hline \end{array}$	$\begin{array}{r} 279 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 740 \\ -237 \\ \hline \end{array}$	$\begin{array}{r} 210 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 600 \\ -59 \\ \hline \end{array}$	$\begin{array}{r} 507 \\ +98 \\ \hline \end{array}$	$\begin{array}{r} 113 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 522 \\ -487 \\ \hline \end{array}$

14. $\begin{array}{r} 243 \\ +606 \\ \hline \end{array}$	$\begin{array}{r} 926 \\ -174 \\ \hline \end{array}$	$\begin{array}{r} 103 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 147 \\ -59 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ +65 \\ \hline \end{array}$	$\begin{array}{r} 911 \\ -547 \\ \hline \end{array}$	$\begin{array}{r} 132 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 308 \\ -268 \\ \hline \end{array}$
--	--	--	---	--	--	--	--

1 as the Quotient Figure



1. There are 4 cones for 4 boys. What is each boy's share?

$$\frac{1}{4} \text{ of } 4 = \text{---} \quad 4 \div 4 = \text{---}$$

2. If 8 apples are put in a basket, how many baskets are needed for 8 apples?

$$8\text{'s in } 8 = \text{---} \quad 8 \div 8 = \text{---} \quad 8 \overline{)8}$$

When you divide a number by an equal number, the quotient is 1.

Write the answers.

$$3. \text{ 7's in } 7 = \text{---} \quad 6. \frac{1}{3} \text{ of } 3 = \text{---}$$

$$4. \text{ 5's in } 5 = \text{---} \quad 7. \overline{2)2}$$

$$5. 9 \overline{)9} \quad 8. \text{ 6's in } 6 = \text{---}$$

Two Kinds of Division Problems

We use division in two different ways.

Sometimes we want to find how many equal groups there are in a larger group.

Sometimes we want to find how many there are in each of the equal parts of a group.

1. Ann put 8 pieces of candy in each bag. For 32 pieces, how many bags did she need?

Must we find how many groups of 8 there are in 32? -----

The number question is "8's in $32 = ?$ "

2. Four girls shared 32 pieces of candy equally. How many pieces did each girl get?

Must we find how many pieces there are in $\frac{1}{4}$ of 32 pieces? -----

Finish the number question:

----- of ----- = ?

For each problem, write the number question. Do not work the problems.

3. Tom wrote answers for 20 examples in 4 equal rows. How many answers did he write in each row?

4. In a game 5 children could play on each team. 15 children made how many teams?

5. A box holds 12 eggs. There are 4 eggs in each row. How many rows are there?

6. 3 boys shared 24 peanuts equally. How many peanuts did each boy get?

7. The boys put 36 chairs in 4 equal rows. Each row had how many chairs?

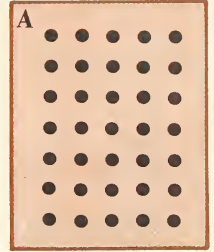
Can You Tell?

If Ex. 1 is correct, put \checkmark on the line before it. If it is not correct, put X before it. Do the same for Ex. 2 to 8.

- ... 1. Some weeks have 8 days.
- ... 2. A fraction may tell the size of one of the equal parts of a group.
- ... 3. XII means 7.
- ... 4. IX means 9.
- ... 5. At 20 minutes past 2, the minute hand of a clock is on 4.
- ... 6. You multiply to find how many equal groups there are in a larger group.
- ... 7. $\frac{1}{3}$ of 21 means $3\overline{)21}$.
- ... 8. In the example 3×19 , the ten's figure in the product is 5.

Write the answers.

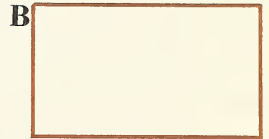
9. You have never seen box A before. Use it to help you write the parts of the whole story for 5, 7, and 35.



M. facts

D. facts

10. $\frac{1}{3}$ of 18 = ? Make a dot picture in box B and write the answer here:



$\frac{1}{3}$ of 18 =

11. Write the number that has 40 tens and 6 ones.

12. 8 gallons = quarts.

Add, Subtract, or Multiply. Watch the Signs!

a	b	c	d	e	f	g	h
1. $\begin{array}{r} 800 \\ -251 \\ \hline \end{array}$	$\begin{array}{r} 43 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 134 \\ +97 \\ \hline \end{array}$	$\begin{array}{r} 378 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 178 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 473 \\ -69 \\ \hline \end{array}$	$\begin{array}{r} \$2.40 \\ +5.38 \\ \hline \end{array}$	$\begin{array}{r} \$1.34 \\ \times 5 \\ \hline \end{array}$
2. $\begin{array}{r} 143 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 452 \\ -344 \\ \hline \end{array}$	$\begin{array}{r} 459 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 134 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 609 \\ +307 \\ \hline \end{array}$	$\begin{array}{r} 543 \\ -67 \\ \hline \end{array}$	$\begin{array}{r} \$0.34 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} \$7.40 \\ -6.18 \\ \hline \end{array}$
3. $\begin{array}{r} 258 \\ -59 \\ \hline \end{array}$	$\begin{array}{r} 69 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 180 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 474 \\ +307 \\ \hline \end{array}$	$\begin{array}{r} 811 \\ -537 \\ \hline \end{array}$	$\begin{array}{r} 125 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} \$6.07 \\ -0.99 \\ \hline \end{array}$	$\begin{array}{r} \$9.01 \\ -5.36 \\ \hline \end{array}$
4. $\begin{array}{r} 265 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 566 \\ +67 \\ \hline \end{array}$	$\begin{array}{r} 34 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 348 \\ +287 \\ \hline \end{array}$	$\begin{array}{r} 143 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 366 \\ -269 \\ \hline \end{array}$	$\begin{array}{r} \$9.60 \\ -3.77 \\ \hline \end{array}$	$\begin{array}{r} \$1.20 \\ \times 8 \\ \hline \end{array}$



1. One third of the 30 children at the class picnic were boys. How many were boys? $\frac{1}{3}$ of 30 = ?

$$30 = 3 \text{ tens.} \quad 3 \text{ tens} \div 3 = \text{---} \text{ ten.}$$

$$\frac{1}{3} \text{ of } 3 \text{ tens} = \text{---} \text{ ten, or } 10.$$

2. If Joe and Mike share equally the 40 shells they found, how many shells will each boy get? $\frac{1}{2}$ of 40 = ?

$$4 \text{ tens} \div 2 = \text{---} \text{ tens.}$$

$$\frac{1}{2} \text{ of } 4 \text{ tens} = \text{---} \text{ tens, or } \text{---}.$$

3. $\frac{1}{2}$ of 6 tens = --- tens, or ---.

$$60 \div 2 = \text{---}.$$

4. $\frac{1}{4}$ of 8 tens = --- tens, or ---.

$$80 \div 4 = \text{---}.$$

5. $\frac{1}{3}$ of 6 tens = --- tens, or ---.

$$60 \div 3 = \text{---}.$$

6. $\frac{1}{2}$ of 8 tens = --- tens, or ---.

$$80 \div 2 = \text{---}.$$

You divide tens like ones.

7. Ex. a is a way to write "6 tens \div 2 = 3 tens." Is the 3 in ten's place? ---

$$\begin{array}{r} 30 \\ a. 2 \overline{)60} \end{array}$$

$$\begin{array}{r} 20 \\ b. 3 \overline{)60} \end{array}$$

$$\begin{array}{r} 9 \\ c. 3 \overline{)27} \end{array}$$

8. Ex. b. Does the quotient, 20, mean 2 tens? --- Does the 0 keep the 2 in ten's place? ---

9. Ex. c. Does the 9 mean "9 tens"? --- In what place is the 9 written? ---

Divide in Ex. 10 to 18. Be careful to place quotient figures correctly.

$$10. 2 \overline{)80}$$

$$11. 4 \overline{)36}$$

$$12. 2 \overline{)40}$$

$$13. 2 \overline{)18}$$

$$14. 3 \overline{)90}$$

$$15. 3 \overline{)24}$$

$$16. 2 \overline{)20}$$

$$17. 4 \overline{)40}$$

$$18. 4 \overline{)80}$$

Dividing Other Two-Place Numbers



1. 24 singers will make 2 equal rows of how many?

$\frac{1}{2}$ of 24 = ?

a. Count the singers. Each row has

b. You can find the answer by dividing. 24 is $20 + 4$.

Finish the work in box A at the right.

c. Box B shows a shorter way to divide.

Divide tens: $2 \div 2 = \dots$. Write "1" in place in the quotient.

Multiply. $1 \text{ ten} \times 2 = 2 \text{ tens}$, or Write "20" under 24. Subtract. That leaves 4 ones to divide.

Divide ones: $4 \div 2 = \dots$. Write "2" in place in the quotient.

Multiply. $2 \text{ ones} \times 2 = \dots$ ones. Write "4" under 4 and subtract.

The remainder is 0, so $24 \div 2 = \dots$.

2. Box C. $84 \div 4 = ?$

Tens: *Think*, " $8 \div 4 = 2$." Write "2" in ten's place in the quotient. Multiply: $2 \text{ tens} \times 4 = 8 \text{ tens}$, or 80.

Write "80" under and subtract.

Ones: *Think*, " $4 \div 4 = 1$." Finish the work in box C.

3. Box D. Write the quotient figures.

4. Box E. Is the figure in ten's place in the quotient

correct? Finish the work.

5. Box F. Finish the work.

A

$$\begin{array}{r} 10 + 2 \\ 2 \overline{)20 + 4} \end{array}$$

$$10 + 2 = \dots$$

B

	Tens	Ones	
	1	2	
2	2	4	
—	2	0	(1 ten \times 2)
		4	
—		4	(2 \times 2)
		0	

C

$$\begin{array}{r} 21 \\ 4 \overline{)84} \\ - 80 \\ \hline 4 \\ \hline \end{array}$$

D

$$\begin{array}{r} 268 \\ 2 \overline{)68} \\ - 60 \\ \hline 8 \\ \hline - 8 \\ \hline 0 \end{array}$$

E

$$\begin{array}{r} 2 \\ 3 \overline{)63} \\ - 60 \\ \hline 3 \\ \hline \end{array}$$

F

$$\begin{array}{r} 3 \text{ } \cancel{9} \\ 3 \overline{)96\cancel{9}} \\ \hline 6 \\ \hline \end{array}$$

Always be careful to place the quotient figures correctly.

Practice in Dividing

Divide. Check by doing the work again.

- | a | b | c | d | e | f | g |
|----------------------|-------------------|-------------------|-------------------|----------------------------|----------------------------|----------------------------|
| 1. $2\overline{)42}$ | $3\overline{)63}$ | $4\overline{)84}$ | $2\overline{)62}$ | $4\overline{)44\text{ ¢}}$ | $2\overline{)48\text{ ¢}}$ | $2\overline{)26\text{ ¢}}$ |
| 2. $4\overline{)88}$ | $3\overline{)39}$ | $2\overline{)68}$ | $3\overline{)69}$ | $2\overline{)64\text{ ¢}}$ | $3\overline{)93\text{ ¢}}$ | $6\overline{)66\text{ ¢}}$ |
| 3. $2\overline{)28}$ | $3\overline{)66}$ | $2\overline{)86}$ | $2\overline{)46}$ | $3\overline{)99\text{ ¢}}$ | $2\overline{)84\text{ ¢}}$ | $3\overline{)96\text{ ¢}}$ |

Checking Division

1. Box A says that when 48 is divided into 4 equal groups, there are 12 in each group. If 12 is the correct quotient, 4×12 will equal 48.

Box B. Finish the work.
Does 4×12 equal 48?

Then is 12 the correct quotient in box A?

A

$$\begin{array}{r} 12 \\ 4\overline{)48} \\ \underline{40} \\ 8 \\ \underline{8} \\ 0 \end{array}$$

B

$$\begin{array}{r} \text{Check} \\ 12 \\ \times 4 \\ \hline \end{array}$$

To check division, multiply the quotient by the number you divided by. The product should be the same as the number you divided.

Check the quotients in Ex. 2 to 4 and cross out quotient figures that are wrong.

2. $\begin{array}{r} 23 \\ 2\overline{)48} \end{array}$

3. $\begin{array}{r} 31 \\ 3\overline{)93} \end{array}$

4. $\begin{array}{r} 42 \\ 2\overline{)82} \end{array}$

Do your multiplying here:

Other Division Examples with Two-Place Quotients

1. $249 \div 3 = ?$ Box A.
 $249 = 2$ hundreds and 4 tens and 9 ones.

Divide hundreds: Look at 2 hundreds. *Think*, "There are not enough hundreds to have even 1 hundred in the quotient. But $249 = 24$ tens and 9 ones, so I can divide tens."

Divide tens. $24 \div 3 = 8$.
 Write "8" in ten's place in the quotient. Multiply and subtract.

Divide ones. Finish the work in box A.

2. Finish the work in box B to check Ex. 1. Is 83 the correct quotient?

B Check

$$\begin{array}{r} 83 \\ \times 3 \\ \hline \end{array}$$

For Ex. 3 to 11 write only the first quotient figures. Be careful to put each of them in the right place.

3. $3 \overline{)156}$ 4. $6 \overline{)66}$ 5. $8 \overline{)\$0.88}$

6. $4 \overline{)88}$ 7. $6 \overline{)246}$ 8. $9 \overline{)\$1.89}$

9. $5 \overline{)205}$ 10. $2 \overline{)188}$ 11. $3 \overline{)213}$

12. Finish the work in Ex. a to c.

$\begin{array}{r} 73 \\ a. \ 2 \overline{)146} \\ \underline{140} \\ 6 \\ \hline 0 \end{array}$	$\begin{array}{r} b. \ 6 \overline{)186} \\ \underline{180} \\ 6 \\ \hline 0 \end{array}$	$\begin{array}{r} \$0.6 \\ c. \ 4 \overline{)\$2.48} \\ \underline{240} \\ 8 \\ \hline - \end{array}$
---	---	---

Work the examples in rows 13 to 16.

a	b	c
13. $4 \overline{)368}$	$9 \overline{)279}$	$7 \overline{)\$2.87}$

14. $9 \overline{)369}$	$8 \overline{)248}$	$5 \overline{)\$1.55}$
-------------------------	---------------------	------------------------

15. $7 \overline{)77}$	$2 \overline{)148}$	$8 \overline{)\$3.28}$
------------------------	---------------------	------------------------

16. $3 \overline{)216}$	$8 \overline{)168}$	$4 \overline{)\$3.24}$
-------------------------	---------------------	------------------------

Check your quotients for row 16 here:

Time for Practice!

Divide. Always place quotient figures correctly.

a	b	c	d	e	f	g
1. $3\overline{)69}$	$2\overline{)148}$	$7\overline{)147}$	$9\overline{)369}$	$2\overline{)84}$	$4\overline{)248}$	$2\overline{)\$1.86}$

Find sum, remainder, product, or quotient. Watch the signs!

a	b	c	d	e	f	g	h
2. $\begin{array}{r} 144 \\ -84 \\ \hline \end{array}$	$\begin{array}{r} 208 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 320 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 114 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 98 \\ +407 \\ \hline \end{array}$	$\begin{array}{r} 900 \\ -257 \\ \hline \end{array}$	$\begin{array}{r} 816 \\ -487 \\ \hline \end{array}$	$\begin{array}{r} \$1.43 \\ \times 6 \\ \hline \end{array}$
3. $\begin{array}{r} 134 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 614 \\ -78 \\ \hline \end{array}$	$\begin{array}{r} 312 \\ +180 \\ \hline \end{array}$	$\begin{array}{r} 89 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 857 \\ -550 \\ \hline \end{array}$	$\begin{array}{r} 104 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 268 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} \$5.40 \\ -3.80 \\ \hline \end{array}$
4. $\begin{array}{r} 254 \\ +649 \\ \hline \end{array}$	$\begin{array}{r} 706 \\ -88 \\ \hline \end{array}$	$\begin{array}{r} 302 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 76 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 111 \\ -53 \\ \hline \end{array}$	$\begin{array}{r} 734 \\ +129 \\ \hline \end{array}$	$\begin{array}{r} 306 \\ +294 \\ \hline \end{array}$	$\begin{array}{r} 124 \\ \times 6 \\ \hline \end{array}$

a	b	c	d	e	f	g
5. $9\overline{)189}$	$3\overline{)186}$	$2\overline{)128}$	$7\overline{)217}$	$6\overline{)246}$	$4\overline{)84\cancel{2}}$	$8\overline{)\$3.28}$

6. $\begin{array}{r} 28 \\ 0 \\ 9 \\ 0 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 46 \\ 7 \\ 9 \\ 24 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ 30 \\ 4 \\ 18 \\ +61 \\ \hline \end{array}$	$\begin{array}{r} 32\cancel{2} \\ 8\cancel{2} \\ 9\cancel{2} \\ 7\cancel{2} \\ +5\cancel{2} \\ \hline \end{array}$	$\begin{array}{r} 214 \\ 163 \\ 58 \\ +407 \\ \hline \end{array}$	$\begin{array}{r} \$0.24 \\ 1.95 \\ 0.53 \\ +2.88 \\ \hline \end{array}$	$\begin{array}{r} \$0.72 \\ 0.36 \\ 0.54 \\ 0.81 \\ +0.30 \\ \hline \end{array}$
---	---	---	--	---	--	--

Is the Answer Too Large or Too Small?

a	b	c	d	e	f
5	8	2	5	8	2
$\times 4$	$\times 3$	$\times 9$	$4\overline{)20}$	$3\overline{)24}$	$9\overline{)18}$
20	24	18			

1. Ex. a, b, and c. Are the products larger than the numbers you multiply?

Products always are larger except when you multiply by 0 or 1.

2. Ex. d, e, and f. Are the quotients smaller than the numbers you divide?

Quotients always are smaller except when you divide by 1.

3. $4 \times 236 = 81$ or 944 ?
 cannot be the answer because it is smaller than the number you multiply.

4. $369 \div 9 = 378$ or 41 ?

cannot be the answer because it is than the number you divide.

Look at the two answers after each of Ex. 5 to 9. Pick out the answer that must be wrong and draw a ring around it.

- 5. 9×43 37 387
- 6. 2×456 912 118
- 7. $279 \div 3$ 93 282
- 8. $328 \div 8$ 516 41
- 9. 6×142 136 852

Work Ex. 5 to 9 on another piece of paper. Write your answers here.

- 5. 6. 7.
- 8. 9.

Do You Know?

Part 1

Write answers at the bottom of the page.

- 1. With 8 children to a bench, 4 benches will hold ?_ children.
- 2. $\frac{1}{3}$ of 21 benches is ?_ benches.
- 3. 28 boys sat in equal groups on 4 benches. That was ?_ boys to a bench.
- 4. All but 6 of 31 children were sitting down. ?_ were sitting.

- 5. If 6 children sit on each bench, ?_ benches will be needed for 24 children.
- 6. 5, 6, and 8 girls sat on 3 benches. That was a total of ?_ girls.
- 7. 15 benches were in 3 equal rows. There were ?_ benches in each row.
- 8. 4 boys are sitting on each of 5 benches. That is ?_ boys altogether.

Answers: 1. 2. 3. 4. 5. 6. 7. 8.

(Go on to the next page for Parts 2 and 3.)

Do You Know?

Part 2

If Ex. 1 is correct, put \checkmark before it. If it is wrong, put \times before it. Do the same for Ex. 2 to 9.

... 1. For $128 \div 6$ the first quotient figure will be in ten's place.

... 2. 101 is too small to be the answer for the example 3×108 .

... 3. To find $\frac{1}{3}$ of 186, you write the work this way: $3 \times 186 = ?$

... 4. To check the quotient in $128 \div 4 = 32$, multiply 128 by 4.

... 5. 43×7 and 7×43 have the same product.

... 6. The whole story in M. and D. about 4, 4, and 16 has two parts.

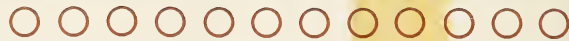
... 7. VI is the Roman number for 11.

... 8. $27 \div 27 = 1$

... 9. $\frac{1}{4}$ means 1 of 4 equal parts.

10. Write 2 examples in the 7 — 5 family.

11. Put dots in $\frac{1}{4}$ of the 12 circles.



12. Write a M. example in which you carry tens only. Use the box below.

12.	13.
-----	-----

13. Write a M. example in which you carry hundreds only. Use the box above.

14. Write two different numbers with 7 in ten's place: -----

15. Write 3 other facts to make a whole story with $24 \div 6 = 4$. -----

Part 3

Find the answers. Work carefully.

1. $\begin{array}{r} 124 \\ \times 8 \\ \hline \end{array}$

2. $\begin{array}{r} 700 \\ - 362 \\ \hline \end{array}$

3. $\begin{array}{r} 324 \\ \times 3 \\ \hline \end{array}$

4. $\begin{array}{r} 843 \\ - 305 \\ \hline \end{array}$

5. $3 \overline{)276}$

6. $\begin{array}{r} 237 \\ 45 \\ 169 \\ + 273 \\ \hline \end{array}$

7. $2 \overline{)48}$

8. $8 \overline{)248}$

9. $7 \overline{)217}$

10. $3 \overline{)186}$

11. $\begin{array}{r} 32 \\ 43 \\ 29 \\ 40 \\ + 18 \\ \hline \end{array}$

12. $\begin{array}{r} 159 \\ \times 4 \\ \hline \end{array}$

The chart below shows the pages of the text, Workbook page or supplement, the teaching of a topic previously taught may be considered optional, teaching the text page listed just previously.

OA 106 B98 A GR-3 WKBK-
BUSWELL GUY T GUY THOMAS
1891-
ARITHMETIC WE NEED
NL 40803870 CURR HIST



* 000031081581 *

ated to
d, each
lement
opera-
e chart
rs after

WORKBOOK PAGES	TEXTBOOK PAGES	WORKBOOK PAGES	TEXTBOOK PAGES	WORKBOOK PAGES	TEXTBOOK PAGES	WORKBOOK PAGES	TEXTBOOK PAGES
1	1-2	34	*	65-66	171-172	105	251-253
2	3	35 (top)	82-83	66 (bottom)	173	106	256-257
3 (top)	4	35 (bottom)	*	67 (top)	175	107 (top)	*
3 (bottom)	5	36	84-85	67-68	*	107 (bottom)	259
4 (top)	6	37	90-93	68-69	176-177	108	260-262
4 (bottom)	7	38	95	70	178-180	109	262-263
5	8-11	39	96-97	71	181-183	110 (top)	263
6 (top)	*	40-41	97-98	72	*	110 (bottom)	264
6-7	14-15	42-43	99	73	185	111	265
7 (bottom)	16	43 (bottom)	*	74	186-187	112	266-267
8-9	18-20	44 (top)	100-101	75	189	113	*
9 (bottom)	21	44 (bottom)	102-103	76	190-191	114	270-271
10-11	22-25	45	*	77	194-195	115	272-274
11 (bottom)	26	46 (top)	104	78	196-197	116	275
12 (top)	27	46 (bottom)	105	79	*	116-117	276
12-13	28-29	47	106-107	80	200-201	117 (middle)	277
13 (bottom)	*	48 (top)	108-109	81 (top)	204-205	117 (bottom)	278
14 (top)	30	48 (bottom)	*	81-82	*	118	279
14 (bottom)	32-33	49 (top)	114-115	82 (bottom)	208-209	119	280-281
15	34-35	49 (bottom)	116	83	210-211	120-121	282-284
16 (top)	36-37	50 (top)	117	84	212	121 (bottom)	285
16-17	38	50-51	118-119	85	213	122	286-289
17 (bottom)	39-40	51 (bottom)	120	86	214-215	123	291
18	42-45	52 (top)	121	87-88	215-219	124-125	292-293
19	46-49	52 (bottom)	*	89	221-222	126	294-295
20	51-53	53 (top)	124-125	90	223-224	127-128	296-298
21	54-55	53 (bottom)	136-137	91	225	129	300-301
22	56-57	54	138-141	92	226-227	130	302-303
23	58-59	55	143	93	228	131-132	*
24	60-62	56	144-145	94	229	132 (bottom)	307
25 (top)	*	57	146-147	95	230-231	133-134	308-310
25 (bottom)	63	58 (top)	148-149	96	232-233	135	*
26	*	58 (bottom)	*	97	234-235	136 (top)	312
27	66-67	59	151	98	236-237	136 (bottom)	313
28	68-69	60	154-155	99	238-240	137	*
29	70-71	61	158-159	100 (top)	242	138	316-317
30 (top)	74-75	62 (top)	*	100-101	*	139-140	318-320
30 (bottom)	*	62 (bottom)	163	101 (bottom)	244-245	140-141	320-321
31	76-77	63	*	102 (top)	*	142	*
32-33	78-79	64	168-169	102 (bottom)	246-247	143 (top)	322
33 (bottom)	80	65 (top)	170	103-104	248-249	143-144	325-327



GINN AND COMPANY